TOWN OF WOLCOTT
INVITATION TO BID #17-04
1500 GPM CUSTOM PUMPER

DO NOT CALL THE WOLCOTT TOWN HALL REGARDING THIS NOTICE

The Town of Wolcott requests bids from qualified vendors to supply a **1500 GPM CUSTOM PUMPER** in accordance with specifications. Bid packages, containing submission instructions and other information are available by email request to nclark@wolcottct.org. Please put **"17-04 1500 GPM Custom Pumper"** in the subject line of email requests. Bid packages may also be requested from Natalie Clark, Acct. and Purchasing by fax at 203-879-8106. Sealed bids, including envelopes and/or mailing containers will be clearly marked **"17-04 1500 GPM CUSTOM PUMPER"**, will show the name and address of the bidder and must be received in the Finance Office, Wolcott Town Hall, 10 Kenea Ave.,Wolcott, CT 06716, by 12:00 PM, Wednesday, August 24, 2016. Bids will be opened & read in public immediately following the bid closing time in the Council Chambers, Wolcott Town Hall. Late bids or bids delivered to other locations will be disqualified. The Town of Wolcott reserves the right to reject any and all bids, waive any irregularities, omissions, excess verbiage or technical defects in the bids, and the Town need not necessarily award the contract to the firm submitting the lowest bid, if, in the opinion of the Town, it would be in the best interests of the Town of Wolcott to accept other than the lowest bid because of another firm's greater expertise and/or experience or quality of material.

THE TOWN OF WOLCOTT IS AN EQUAL OPPORTUNITY EMPLOYER

TOWN OF WOLCOTT

INVITATION TO BID

#17-04"

"1500 GPM CUSTOM PUMPER"

PUBLISHED: Sunday, August 7, 2016

BID DUE: 12:00 P.M., Wednesday, August 24th, 2016

INVITATION TO BID

SUBMITTAL INSTRUCTIONS & INFORMATION

In order to maintain the integrity of the bidding process, all questions must be in writing. Phoned or verbal questions will not be accepted. The Town of Wolcott will not be responsible for and hereby disclaims any alleged oral instructions of contract interpretations given to prospective bidders. Should any prospective bidder require clarification or interpretation of any item , such request must be faxed to Natalie Clark at 203-879-8106 or emailed to nclark@wolcottct.org Questions & answers will be provided, as promptly as possible to all potential bidders who have requested bid packages. Questions will not be addressed after 4:00 P.M., Wednesday, August 17, 2016.

Sealed bids, including mailing envelopes and/or shipping containers, will be clearly marked "17-04 1500 GPM CUSTOM PUMPER", will show the name & address of the bidder, and will be delivered to Susan E. Hale, Municipal Finance Officer, Wolcott Town Hall, 10 Kenea Ave., Wolcott, CT 06716 by 12:00 P.M., Wednesday, August 24, 2016. Bids received late or delivered to other locations will be disqualified. Bids will be opened and read publicly immediately following the bid closing time in the Council Chambers, Wolcott Town Hall.

The Town reserves the right to change the bid due date and time. In submitting this bid, it is agreed that it (the bid) may not be withdrawn for a period of 90 days from the opening thereof.

Bidders using delivery services are cautioned to allow sufficient time to ensure the timely delivery and correct delivery location of their bids. The Town is not responsible for the failure of delivery services to deliver the bids to the correct location by the specified bid closing time. The Town is not responsible for bids not arriving at the prescribed time and place due to insufficient postage.

Hours of operation at the Wolcott Town Hall are: Monday through Wednesday 8:00 A.M. to 4:30 P.M., Thursday 8:00 A.M. to 5:30 P.M. and Friday 8:00 A.M. to 12:00 noon.

All forms must be properly and completely filled out. All forms must be signed by an authorized principal or agent of the bidder. Any modification which a bidder submits must be on a separate attachment, identified properly as such and properly signed.

The Town of Wolcott reserves the right to reject any and all bids, waive any irregularities, omissions, excess verbiage or technical defects in the bids, and the Town need not necessarily award the contract to the firm submitting the lowest bid, if, in the opinion of the Town, it would be in the best interests of the Town of Wolcott to accept other than the lowest bid because of another firm's greater expertise and/or experience.

The Town is exempt from the payment of Federal Excise Tax and CT Sales and Use Tax. These taxes must not be included in bid prices nor added to any items specified.

Potential bidders are prohibited from contacting any Town employee, officer or official concerning this Invitation to Bid. A firm's failure to comply with this requirement will result in disqualification.

The Town may consider informal any proposal not prepared and submitted in accordance with the provisions hereof, and may waive any informalities in or reject any and all proposals.

The Town of Wolcott Ordinances #75 & # 92 will be in force for the purposes of the bid evaluation. (copies attached)

The Town may make such investigations, as it deems necessary to determine the ability, qualifications, and experience of the bidder to perform. The bidder shall furnish to the Town all such information and data for this purpose as the Town may request.

The Town of Wolcott, Connecticut, is an Equal Opportunity Employer. The Town has made it a matter of policy that it will not transact business with firms, which are not in compliance with all Federal and State statues and Executive Orders pertaining to nondiscrimination.

In order for the Bidder to be placed on the Town's acceptable Vendors List and thereby be eligible for consideration as a source for goods and services, the Bidder must complete the below Affirmative Action statement.

STATEMENT OF POLICY

It is the employment policy of _____ (this "Firm") that there shall be no discrimination against anyone on the grounds of race, creed, national origin, sex or age, in the hiring, upgrading, demotion, recruitment, termination, and selection for training.

In addition, this Firm is in full compliance with the letter and intent of the various Equal Employment Opportunities and Civil Rights Statues noted above.

Name of Firm: _____

Address: _____

Signature: _____ Date: _____

Typed Name: _____ Title: _____

NON-COLLUSIVE BID STATEMENT

All bidders are required to sign a Non-Collusive Statement with all public bids as follows:

1. The bid has been arrived at by the bidder independently and has been submitted without collusion with, and without any agreement, understanding, or planned common course of action with any other vendor or materials, supplies, equipment, or services described in the Advertisement for Bids, designed to limit independent bidding or competition, and

2. The contents of the bid have not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid, and will not be communicated to any such person prior to the official opening of the bid.

Name of Bidder: _____

By: _____

Title: _____

INDEMNIFICATION AND SAVE HARMLESS AGREEMENT

The Contractor agrees to indemnify and save harmless the Town of Wolcott, CT, its employees, agents and servants, from any liability, claim, expense, cause of action, loss or damage whatsoever, for any injury, including death to any person or property; whether covered by insurance or not, unless such injury or damage is caused by the sole negligence of the Town of Wolcott, its agents or servants. The Town of Wolcott shall be held harmless specifically for attorney's fees and the Contractor is expressly obligated to defend any and all claims that shall arise through this contract.

Bidder's Signature: _____

Date: _____

INSURANCE REQUIREMENTS

The Contractor will carry for the life of the contract and provide a copy of insurance certificates:

Public Liability Insurance, including Contractual Liability and Completed Operations coverage for Bodily Injury and Property Damage in an amount no less than $1,000,000 per occurrence, and $2,000,000 annual aggregate.

Automobile Liability Insurance in an amount no less than $1,000,000.
Combines single limit for Bodily Injury and Property Damage.

Workers Compensation Insurance as required by state law.

Employers Liability Insurance of $1,000,000 per occurrence.

Excess Umbrella Liability Insurance of $3,000,000.

Maximum deductible allowed under any policy $5,000.

All of the above policies will be endorsed to include a 30-day prior notice of cancellation, termination or modification to the Town of Wolcott, CT. All of the above policies shall name the Town of Wolcott, CT, the officials, employees, agents, and servants of the aforementioned, as additional insureds.

Intent of Specifications

It is the intent of these specifications to cover the furnishing and delivery to the purchaser of a complete vehicle equipped as hereinafter specified. With a view to obtaining the best results and the most acceptable apparatus, these specifications cover minimum requirements as to the type of construction, finish, and tests to which the apparatus must conform, together with certain details as to equipment and appliances to be furnished. Minor details of construction and materials, where not otherwise specified, are left to the discretion of the contractor, who shall be solely responsible for the design and construction. The apparatus shall conform to the requirements of the current (at the time of bid) NFPA standard to the extent as specified herein.

BIDDERS ARE ADVISED THAT THIS SECTION OF THE SPECIFICATIONS WILL BE EVALUATED BEFORE THE APPARATUS TECHNICAL SPECIFICATIONS. BIDS THAT DO NOT COMPLY WITH OUR BONDING, INSURANCE, DELIVERY, BIDDER QUALIFICATIONS, SERVICE, AND WARRANTY REQUIREMENTS WILL BE IMMEDIATELY DEEMED NON-RESPONSIVE AND SHALL BE IMMEDIATELY REJECTED WITHOUT FURTHER REVIEW OF THE TECHNICAL SPECIFICATIONS.

Qualification of Bidders

Bids will only be considered on vehicles constructed in the continental United States, whose manufacturers have an established reputation of permanency and reliability in the field of fire apparatus construction. Each manufacturer shall furnish satisfactory evidence of their ability to construct the apparatus as specified, and shall state the location of the factory where the complete apparatus will be built. If the chassis, body, and water tank are manufactured in different facilities, the location of each facility shall be stated in the bid. Experimental apparatus, or apparatus using a subcontracted body, chassis, or water tank will not be acceptable. Bids will only be considered from manufacturers who have been in business continuously, without interruption, for a minimum of twenty-five (25) years.

Please complete the following:

Please state the location where the following vehicle components will be constructed:

Cab _____
Body _____
Tank _____

- How long has the manufacturer been building chassis at this location?

  Number of years_____

- How long has the manufacturer been building bodies at this location?

  Number of years_____

Bidders must state the location of at least twenty-five (25) communities using similar apparatus supplied by them.

Bidders must submit a copy of a current "Certificate of Good Standing" from The Secretary of State.

Local Repair and Service Requirements

It is the intent of the purchaser to assure that parts and service are readily available for the apparatus specified. SERVICE CAPABILITIES WILL BE A MAJOR CRITERIA FOR AWARD OF THIS BID. To insure proper service, no bid will be accepted unless the bidder owns or offers facilities in state within (25) miles where complete parts and service are available. The facility must be staffed by full time personnel who are factory trained and EVT certified in the operation and repair of the fire apparatus, including the pump, with full authorization of the manufacturer.

In addition, in order to ensure prompt service, the facility must be solely dedicated to the service/repair of emergency vehicles. Facilities that cater to construction and fleet trucks (i.e., highway dept., DPW, oil, concrete, etc.) will not be considered. The facility shall maintain a complete inventory including major pump parts, body components, electrical items, fire apparatus hardware, etc. The bidder must also operate an on-site pump test facility and must be an "Authorized Parts and Service Center" for all major pump brands, and provide proof thereof. Bids from manufacturers who use third party service people or facilities, or who do not offer a service center will be immediately rejected. Furthermore, due to a concern over having vehicles "out-of-service" for extended periods of time as a result of having to be sent back to the original manufacturer's location for repairs, any bidder who cannot guarantee that all future repairs will be handled at a local level will not be acceptable.

Emergency Vehicle Technician Qualifications

Due to the highly specialized nature of fire apparatus repair, emergency vehicle technicians employed by the bidder shall be in conformance with NFPA standards 1915 and 1071. The bidder shall employ a minimum of fifteen (15) E.V.T. certified technicians including a minimum of one (1) technician certified as a "Master Mechanic" (having amassed every EVT certification). Proof of current certification shall be supplied with the bid. There shall be no exceptions to this requirement. Bids from organizations that do not meet these requirements shall be immediately rejected.

Delivery

The apparatus shall be delivered under its own power to assure adequate break-in while under warranty. It shall first be transported to the local service facility, where final inspection and preparation will be performed, including mounting of related equipment. The apparatus will then be delivered to the Purchaser's location.

Post-Delivery Training

On two (2) mutually agreeable dates after delivery, a certified delivery engineer shall familiarize those persons designated by the Fire Chief with the basic operation of the apparatus and its components. Such training must be coordinated by a fire department officer with a minimum of 20 years of "hands on" experience on the fire ground. This shall be a full instructional program including both classroom and practical or "hands on" training. Limited programs or "drop-off" type deliveries are unacceptable.

Construction Time

The completed apparatus shall be delivered within two hundred forty (240) days after receipt of contract. In the interest of public safety, this delivery date is an extremely important consideration.

Insurance Certificate

A Manufacturer's Certificate of product liability and facility insurance equal to or exceeding $25,000,000.00 must be provided with the bid. The certificate must be in original form (no photocopies or fax copies) and shall name the Fire Department or the city/town as the certificate holder.

Bid Bond

Each bid shall be accompanied by a bid bond in the amount of ten (10) percent of the bid price. Bids submitted without a bond will not be read. The bid bond must be issued by an Insurance Company registered with the Insurance Commissioner of this State. Bonds must be signed by an Officer of the Bidder's Company. Bonds issued by non-registered or foreign Insurance Companies will be immediately rejected.

Performance Bond

A 100% performance bond shall be issued at the time of contract signing.

Contract

These specifications, together with any documents required herein, shall be included in the final contract. Each bidder shall submit a copy of their proposed contract form.

Warranty

Each bidder shall submit a copy of their standard Warranty in compliance with State and Federal regulations. It shall provide coverage for a minimum of a one (1) year period. The bidder must also submit a ten (10) year corrosion perforation warranty, a ten (10) year 100% cab/body paint warranty, a lifetime frame warranty, a ten (10) year stainless steel plumbing warranty, and a ten (10) year cab and body structural warranty. Warranty forms must be submitted with the bid package. Altered forms will not be accepted, and will be grounds for disqualification.

Exceptions

Substitutions, deviations, clarifications, or exceptions to the technical specifications must be listed on a separate page marked, "EXCEPTIONS", and must be accompanied by adequate supportive data to allow the Fire Chief to determine acceptability. Proposals that are found to have deviations without listing them will be rejected. Components identified by brand names are available to all prospective bidders and exceptions shall not be allowed on these items.

Pump Certification

The apparatus will be tested and certified by a third party testing company as detailed in the NFPA Standard for Pumper Fire Apparatus.

ISO Compliance

The manufacturer shall operate a Quality Management System under the requirements of ISO 9001. These standards sponsored by the "International Organization for Standardization (ISO)" specify the quality systems that shall be established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance shall be included with the bid.

Are all of the specific manufacturing plants that are building the body, chassis, and water tanks certified by ISO 9001?

Yes _____ No _____

Approval Drawings

A general arrangement drawing depicting the vehicles appearance shall be provided. The drawing shall consist of left side, right side, front, and rear elevation views.

Vehicles requiring pump controls shall include a general arrangement view of the pump operator`s position, scaled the same as the elevation views.

Electronic Manuals

Two (2) copies of all operator, service, and parts manuals must be supplied at the time of delivery in electronic format (CD-ROM). The electronic manuals shall include the following information:

Operating Instructions, descriptions, specifications, and ratings of the cab, chassis, body, installed components, and auxiliary systems.

Warnings and cautions pertaining to the operation and maintenance of the fire apparatus and fire fighting systems.

Charts, tables, checklists, and illustrations relating to lubrication, cleaning, troubleshooting, diagnostics, and inspections.

Instructions regarding the frequency and procedure for recommended maintenance.

Maintenance instructions for the repair and replacement of installed components.

Parts listing with descriptions and illustrations for identification.

Warranty descriptions and coverage.

The CD-ROM shall incorporate a navigation page with electronic links to the operators manual, service manual, parts manual, and warranty information, as well as instructions on how to use the manual. Each copy shall include a table of contents with links to the specified documents or illustrations.

The CD must be formatted in such a manner as to allow not only the printing of the entire manual, but to also the cutting, pasting, or copying of individual documents to other electronic media, such as electronic mail, memos, and the like.

A find feature shall be included to allow for searches by text or by part number.

These electronic manuals shall be accessible from any computer operating system capable of supporting portable document format (PDF). Permanent copies of all pertinent data shall be kept file at both the local dealership and at the manufacturer`s location.

NOTE: Engine overhaul, engine parts, transmission overhaul, and transmission parts manuals are not included.

Manufacturing Trip

An all-expense paid trip to the manufacturing facility to meet with engineering staff prior to the start of manufacturing is included for (4) Fire Department representatives.

Fire Apparatus Safety Guide

Fire Apparatus Safety Guide published by FAMA, latest edition. This safety manual is intended to point out some of the basic safety situations that may be encountered during the normal operation and maintenance of a fire apparatus and to suggest possible ways of dealing with these situations. This manual is NOT a substitute for the manufacturer`s fire apparatus operator and maintenance manuals or commercial chassis manufacturer`s operator and maintenance manuals.

NFPA Compliance

The manufacturer supplied components of the apparatus shall be compliant with NFPA 1901, 2009 edition.

Front Bumper

The vehicle shall be equipped with a one-piece 10" high bumper made from 10 gauge (0.135" nominal) polished stainless steel for corrosion resistance, strength, and long lasting appearance. It shall be mounted directly to the front frame extensions for maximum strength. The bumper shall incorporate two (2) stiffening ribs.

Front Bumper Extension

The bumper shall be extended approximately 16" from the face of the cab as required.

Bumper Gravel Shield

The extended front bumper gravel shield shall be made of 3/16" (.375") aluminum treadplate material.

Bumper Hose Tray Strap

A heavy duty black nylon strap with an aluminum quick-release buckle shall be provided for center front bumper tray. The strap shall be attached to the inboard side of the tray and shall not reduce the overall tray capacity.

Bumper Tray - Center

A hose tray constructed of 1/8" aluminum shall be recessed into the front bumper extension. The tray shall be located in the center of the bumper and be approximately 10" deep. The tray shall accommodate 100' 1.75" DJ hose. One inch thick aluminum slats shall be included in the bottom of the hose tray to aid in the dissipation of water from the tray.

Frame Rail Construction

The frame shall consist of two (2) C-channel frame rails with heavy-duty cross-members. Each frame rail shall have the following minimum specifications in order to minimize frame deflection under load and thereby improve vehicle ride and extend the life of the frame:

Dimensions: 10-1/4" x 3-1/2" x 3/8"

Material: 110,000-psi minimum yield strength, high strength, low alloy steel

Section Modulus: 16.61 cu. in.

Resistance to Bending Moment (RBM): 1,827,045 in. lbs.

If larger rails are provided, the maximum height of each frame rail shall not exceed the 10-1/4" dimension by more than 1/2" in order to ensure the lowest possible body height for ease of access as well as the lowest possible vehicle center of gravity for maximum stability.

There shall be a minimum of six (6) cross-members joining the two (2) frame rails in order to make the frame rigid and hold the rails/liners in alignment. The cross-members shall be a combination of a formed steel C-channel design along with heavy duty steel fabricated designs as required for the exact chassis configuration. The cross-members shall be attached to the frame rails with not less than four (4) bolts at each end arranged in a bolt pattern to adequately distribute the cross-member load into the rail/liner and minimize stress concentrations.

All frame fasteners shall be high-strength Grade 8, flanged-head threaded bolts and nuts for frame strength, durability, and ease of repair. The nuts shall be Stover locknuts to help prevent loosening. The frame fasteners shall be tightened to the proper torque at the time of assembly.

The frame rails and frame liners shall be finished with black paint. The frame cross-members and frame mounted components (suspensions, axles, air tanks, battery boxes, fuel tank, etc.) shall be painted black.

The apparatus manufacturer shall supply a full lifetime frame warranty including cross-members against defects in materials or workmanship. Warranties that provide a lifetime warranty for only the frame rails, but not the cross-members, are not acceptable.

The custom chassis frame shall have a **wheel alignment** in order to achieve maximum vehicle road performance and to promote long tire life. The alignment shall conform to the manufacturer's internal specifications. All wheel lug nuts and axle U-bolt retainer nuts shall be tightened to the proper torque at the time of alignment. The wheel alignment documentation shall be made available at delivery upon request.

Front Axle

The vehicle shall utilize an ArvinMeritor FL-943, 5" drop beam front axle with a rated capacity of 18,700#. It shall have "easy steer" knuckle pin bushings and 68.83" kingpin centers. The axle shall be of I-beam construction and utilize grease lubricated wheel bearings. The vehicle shall have a nominal cramp angle of 45 degrees, plus two degrees to minus three degrees including front suction applications.

The front axle hubs shall be made from ductile iron and shall be designed for use with 10-hole hub-piloted wheels in order to improve wheel centering and extend tire life.

Front springs shall be parabolic tapered, minimum 4" wide x 54" long (flat), minimum 3 leaf, progressive rate with bronze bushings and a capacity of 20,000 lbs at the ground. Tapered leaf springs provide a 20% ride improvement over standard straight spring systems.

The vehicle shall be equipped with a Sheppard model M-110 integral power steering gear, used in conjunction with a power assist cylinder. The steering assembly shall be rated to statically steer a maximum front axle load of 18,700#. Relief stops shall be provided to reduce system pressure upon full wheel cut. The system shall operate mechanically should the hydraulic system fail.

A 2-year/unlimited miles parts and 2-year labor axle warranty shall be provided as standard by ArvinMeritor Automotive.

In order to achieve maximum vehicle road performance and to promote long tire life, there shall be a wheel alignment. The alignment shall conform to the manufacturer`s internal specifications. All wheel lug nuts and axle U-bolt retainer nuts shall be tightened to the proper torque at the time of alignment. The wheel alignment documentation shall be made available at delivery.

Shock Absorbers Front

Koni model 90 shock absorbers shall be provided for the front axle. The shocks shall be three way adjustable.

The shocks shall be covered by the manufacturer`s standard warranty.

Rear Axle

The vehicle shall be equipped with an ArvinMeritor RS-25-160 single rear axle with single-reduction hypoid gearing and a manufacturer`s rated capacity of 27,000 lbs. The axle shall be equipped with oil-lubricated wheel bearings with ArvinMeritor oil seals.

The rear axle hubs shall be made from ductile iron and shall be designed for use with 10 hole hub-piloted wheels to improve wheel centering and extend tire life.

A 2-year/unlimited miles parts and 2-year labor rear axle warranty shall be provided as standard by ArvinMeritor Automotive.

Rear Suspension

The rear suspension shall be a pair of linear-rate leaf springs with auxiliary "helper" leaf springs and bronze bushings. The variable-rate springs with auxiliary springs ensure that the vehicle rides and handles smoothly under both loaded and unloaded conditions. The suspension shall be rated for the maximum axle capacity.

Front Wheels

The vehicle shall have two (2) polished (on outer wheel surfaces only) Alcoa aluminum disc wheels. They shall be forged from one-piece corrosion-resistant aluminum alloy and sized appropriately for the tires.

Front Wheel Trim Package

The front wheels shall have stainless steel lug nut covers. The front axle shall be covered with American made Real Wheels brand mirror finish, 304L grade, non-corrosive stainless steel universal baby moons. All stainless steel baby moons shall carry a lifetime warranty plus a 2 year re-buffing policy. There shall be two (2) baby moons and twenty (20) lug nut covers.

Rear Wheels

The vehicle shall have four (4) polished (on outer wheel surfaces only) Alcoa aluminum disc wheels. They shall be forged from one-piece corrosion-resistant aluminum alloy and sized appropriately for the tires.

Rear Wheel Trim Package

The rear wheels shall have stainless steel lug nut covers. The rear axle shall be covered with American made Real Wheels brand mirror finish, 304L grade, non-corrosive stainless steel, spring clip band mount high hats, DOT user friendly. All stainless steel high hats shall carry a lifetime warranty plus a 2 year re-buffing policy. There shall be two (2) high hats and twenty (20) lug nut covers.

Aluminum Wheel Finish

A Dura-Brite high performance sealant shall be supplied on each aluminum wheel. The sealant shall not yellow under UV light exposure and shall impede staining and corrosion of the aluminum wheel.

Valve Stem Extensions

Each inside rear wheel on the rear axle shall have valve extensions.

Front Tires

The front tires shall be two (2) Michelin 385/65R22.5 tubeless type 18 PR radial tires with XZY3 Wide Base aggressive tread.

The tires with wheels shall have the following weight capacity and speed rating:

18,740 lbs. @ 65 MPH (steel or aluminum wheels)

Up to 20,000 @ 65 MPH (steel or aluminum wheels with intermittent fire service rating)

The wheels and tires shall conform to the Tire and Rim Association requirements.

Rear Tires

The rear tires shall be Michelin 12R22.5 tubeless type radial tires with XDN2 mud and snow tread.

The tires with wheels shall have the following weight capacity:

27,000 lbs. (dual) @ 75 MPH

The wheels and tires shall conform to the Tire and Rim Association requirements.

Tire Pressure Indicators

The apparatus shall be provided with Real Wheels AirGuard LED tire pressure indicating valve stem caps. When the tire is under inflated by 5-10 PSI, the LED indicator on the cap shall flash red. The indicator housings shall be shock resistant and constructed from polished stainless steel. The indicators shall be calibrated by attaching to valve stem of a tire at proper air pressure per load ratings and easily re-calibrated by simply removing and re-installing them during service.

Real Wheel Part number RWC1234 was superseded by RWC1235 as of June 2015

Front Brakes

The front axle shall be equipped with ArvinMeritor 16-1/2" x 6" S-cam brakes with ArvinMeritor automatic slack adjusters.

A 3-year/unlimited miles parts and 3-year labor front brake warranty shall be provided as standard by ArvinMeritor Automotive. Warranty shall include bushings, seals, and cams.

Rear Brakes

The rear axle shall be equipped with ArvinMeritor 16-1/2" x 7" S-cam brakes with cast brake drums. Q-Plus shoes shall be provided with up to 24,000 lb. axle ratings and P-Type shoes with over 24,000 lb. axle ratings.

The rear axle brakes shall be furnished with automatic slack adjusters. ArvinMeritor brand shall be supplied on RS-24-160 and RS-25-160 axles, and Haldex brand shall be supplied on RS-26-185 and RS-30-185 axles.

A 3 year/unlimited miles parts and 3 year labor rear brake warranty shall be provided as standard by ArvinMeritor Automotive. The warranty shall include bushings, seals, and cams.

Brake System

The vehicle shall be equipped with air-operated brakes and an anti-lock braking system (ABS). The brake system shall meet or exceed the design and performance requirements of the current Federal Motor Vehicle Safety Standard (FMVSS)-121, and the test requirements of the current NFPA 1901 Standard.

A dual-treadle brake valve shall correctly proportion the braking power between the front and rear systems. The air system shall be provided with a rapid pressure build-up feature, designed to meet current NFPA 1901 requirements, to allow the vehicle to begin its emergency response as quickly as possible.

A pressure-protection valve shall be installed to prevent use of the air horns or other air-operated devices should the air system pressure drop below 85 psi. This feature is designed to prevent inadvertent actuation of the emergency/parking brakes while the vehicle is in motion.

Two (2) air pressure needle gauges, one (1) each for front and rear air pressure, with a warning light and buzzer shall be installed at the driver`s instrument panel.

The braking system shall be provided with a minimum of three (3) air tank reservoirs for a total air system capacity of 5,214 cu. in. One (1) reservoir shall serve as the wet tank and a minimum of one (1) tank shall be supplied for each of the front and rear axles. The total system shall carry a sufficient volume of air to comply with FMVSS-121.

Tank Capacities in Cubic Inches:

Wet	Front	Rear	Total
1,738	1,738	1,738	5,214

Spring-actuated emergency/parking brakes shall be installed on the rear axle.

A Bendix-Westinghouse SR-1 valve, in conjunction with a double check valve system, shall provide automatic emergency brake application when the air brake system pressure falls below 40 psi in order to safely bring the vehicle to a stop in case of an accidental loss of braking system air pressure.

A four-channel Wabco ABS shall be provided to improve vehicle stability and control by reducing wheel lock-up during braking. This braking system shall be fitted to both front and rear axles. All electrical connections shall be environmentally-sealed for protection against water, weather, and vibration.

The system shall constantly monitor wheel behavior during braking. Sensors on each wheel transmit wheel speed data to an electronic processor, which shall detect approaching wheel lock-up and instantly modulate (or pump) the brake pressure up to five (5) times per second to prevent wheel lock-up. Each wheel shall be individually controlled. To improve field performance, the system shall be equipped with a dual-circuit design configured in a diagonal pattern. Should a malfunction occur in one circuit, that circuit shall revert to normal braking action. A warning light at the driver's instrument panel shall signal a malfunction.

The system shall also be configured to work in conjunction with all auxiliary engine, exhaust, or driveline brakes to prevent wheel lock-up.

To improve maintenance troubleshooting, provisions in the system for an optional diagnostic tester shall be provided. The system shall test itself each time the vehicle is started, and a dash-mounted light shall go out once the vehicle is moving above 4 MPH.

A 3 year/300,000 mile parts and labor Anti-Locking Braking System (ABS) warranty shall be provided as standard by Meritor Automotive.

Park Brake Release

One (1) Bendix-Westinghouse PP-5 parking brake control valve shall be supplied on the lower dash panel within easy reach of the driver.

Air Dryer

The chassis air system shall be equipped with a Bendix-Westinghouse AD-9 air dryer to remove moisture from the air in order to help prevent the air lines from freezing in cold weather and prolong the life of the braking system components.

Air Inlet

A 1/4" brass quick-release air inlet with a male connection shall be provided. The inlet shall allow a shoreline air hose to be connected to the vehicle, discharging air directly into the wet tank of the air brake system. It shall be located driver door jamb.

Air Lines

Air brake lines shall be constructed of color coded nylon tubing routed in a manner to protect them from damage. Brass fittings shall be provided.

Air Horns

Dual Grover air horns shall be provided, connected to the chassis air system. The horns shall be mounted through the front bumper. The front bumper shall have two (2) holes punched to accommodate the horns. A pressure protection valve shall be installed to prevent the air brake system from being depleted of air pressure.

Transmission Programming

The transmission shall be re-programmed so that when "D" is selected, the transmission will shift from 1st through 4th gear and pressing "MODE" will allow the transmission to shift up to 5th gear. Downshift pre-select will remain as standard (4th gear).

Transmission Selector

A push-button transmission shift module, Allison model 29538373, shall be located to the right side of the steering column within easy reach of the driver. The shift position indicator shall be indirectly lit for after dark operation. The shift module shall have a "Do Not Shift" light and a "Service" indicator light. The shift module shall have means to enter a diagnostic mode and display diagnostic data including oil life monitor, filter life monitor, transmission health monitor and fluid level. A transmission temperature gauge with warning light and buzzer shall be installed on the cab instrument panel.

Transmission Fluid

The transmission fluid shall be TransSynd synthetic.

Vehicle Speed

The maximum speed shall be electronic limited to 68 MPH as required by NFPA 1901.

Engine/Transmission Package

Engine

The vehicle shall utilize a Cummins ISX12 engine as described below:

- 500 Horsepower
- Six (6) cylinder
- Variable Geometry Turbocharged
- Charge Air Cooled (CAC) 4-cycle diesel
- Cummins XPI high pressure fuel injection system
- Fuel cooler (when equipped with a fire pump)
- 729 cu.in. displacement
- 500 gross BHP at 1800 RPM and a peak torque of 1645 lb.ft. at 1200 RPM with a governed RPM of 2100

- Bore and stroke shall be 5.11 x 5.91
- Compression ratio shall be 17:1
- Engine lubrication system shall have a minimum capacity, to include filter, of 43 quarts
- Cooled Exhaust Gas Recirculation (EGR)
- Delco-Remy 39 MD-HD 12 volt starter
- Interacta System
- Coolant filter with shut-off and corrosion inhibiting additive
- 18.7 cubic foot per minute air compressor
- After treatment system consisting of a oxidation catalyst and diesel particulate filter and selective catalyst reduction system
- Ember separator compliant with current NFPA 1901 standard
- The engine shall be compliant with 2016 EPA Emission standards
- Curve reference for ISCAAN FR20389EV

The engine air intake shall draw air through the front cab grill. The intake opening shall be located on the officer (right) side behind front cab face with a plenum that directs air to the air filter. The air cleaner shall be a 11" diameter dry type that is easily accessed for service. Air cleaner intake piping shall be made from aluminized steel tubing with flexible rubber hoses. Air cleaner intake piping clamps shall be heavy-duty, constant-torque, T-bolt clamps to ensure proper sealing under all temperatures in order to keep dust and other contaminants out of the engine intake air stream and protect the engine.

The engine exhaust piping shall be a minimum of 4" diameter welded aluminized steel tubing. The muffler shall be mounted horizontally under the right-hand frame rail in back of the cab in order to minimize heat transmission to the cab and its occupants. The exhaust shall be directed away from the vehicle on the right side ahead of the rear wheels in order to keep exhaust fumes as far away as possible from the cab and pump operator position.

A 5-year/100,000 miles parts and labor warranty will be provided as standard by Cummins.

A copy of the Engine Installation Review stating the engine installation meets Cummins recommendations shall be provided as requested. The engine installation shall not require the operation of any type of "power-down" feature to meet engine installation tests.

Transmission

The vehicle shall utilize an Allison EVS4000P, electronic, 5-speed automatic transmission.

A transmission oil temperature gauge with warning light and buzzer shall be installed on the cab instrument panel to warn the driver of high oil temperatures that may damage the transmission.

The transmission shall have a gross input torque rating of 1675 lb. ft. and a gross input power rating of 580 HP.

The gear ratios shall be as follows:

1 - 3.51

2 - 1.91

3 - 1.43

4 - 1.00

5 - .74

R - 4.80

The transmission shall be equipped with a fluid level sensor (FLS) system, providing direct feedback of transmission oil level information to the operator.

The transmission shall have a lubricant capacity of 51 quarts.

A water-to-oil transmission oil cooler shall be provided to ensure proper cooling of the transmission when the vehicle is stationary (no air flow).

The transmission shall contain two engine driven PTO openings located at the 1 and 8 o`clock positions. The automatic transmission shall be equipped with a power lock-up device. The transmission lock-up shall prevent down shifting of transmission when engine speed is decreased during pump operations, thereby maintaining a constant gear ratio. Transmission lock-up shall be automatically activated when placing pump in gear. Transmission lock-up shall be automatically deactivated when disengaging pump for normal road operation.

A 5-year/unlimited miles parts and labor warranty shall be provided as standard by Allison Transmission.

Automatic Shift to Neutral

The transmission shall be programmed to comply with NFPA 1901 and automatically shift to neutral upon application of the parking brake.

Jacobs Engine Brake

One (1) Jacobs engine brake shall be installed to assist in slowing and controlling the vehicle as required by NFPA 1901 for vehicles with gross vehicle weight ratings (GVWR) of 36,000 lbs. or greater. An on-off control switch and a high-medium-low selector switch shall be mounted in the cab accessible to the driver.

When activated, the Jacobs engine brake shall cut off the flow of fuel to the cylinders and alter the timing of the exhaust valves. This shall transform the engine into a high-pressure air compressor, driven by the wheels, and the horsepower absorbed by the engine in this mode shall slow the vehicle. The selector switch allows the driver to select the amount of retarding power.

When the on-off switch is in the "on" position, the engine brake shall be automatically applied whenever the accelerator is in the idle position and the automatic transmission is in the lock-up mode. If the accelerator is

depressed or if the on-off switch is placed in the "off" position, the engine brake shall immediately release and allow the engine to return to its normal function.

Transmission Programming

The transmission shall include the Allison 2nd gear Pre-Select feature. This option will direct the transmission to down shift to second gear when the throttle is released and the Jacobs engine brake is engaged. This feature is designed to increase brake life and aid vehicle braking.

Exhaust End Modification

The end of the exhaust tail pipe shall be modified to accommodate a Plymovent in-house exhaust extraction system. The tail pipe will be at 90 degrees and straight out below the side of body. A stop ring shall be provided on the tail pipe to properly position the Plymovent nozzle.

Engine Cooling Package

Radiator

The cooling system shall include an aluminum tube-and-fin radiator with a minimum of 1,408 total square inches of frontal area to ensure adequate cooling under all operating conditions. There shall be a drain valve in the bottom tank to allow the radiator to be serviced. A sight glass shall be included for quick fluid level assessment. The radiator shall be installed at the prescribed angle in order to achieve the maximum operational effectiveness. This shall be accomplished according to established work instructions and properly calibrated angle measurement equipment.

Silicone Hoses

All radiator and heater hoses shall be silicone. Pressure compensating band clamps shall be used to eliminate hose pinching on all hoses 3/4" diameter and larger. All radiator hoses shall be routed, loomed, and secured so as to provide maximum protection from chafing, crushing, or contact with other moving parts.

Coolant

The cooling system shall be filled with a 50/50 mixture of water and antifreeze/coolant conditioner to provide freezing protection to minus 40 (- 40) degrees F for operation in severe winter temperatures.

Coolant Recovery

There shall be a coolant overflow recovery system provided.

Charge Air Cooler System

The system shall include a charge air cooler to ensure adequate cooling of the turbocharged air for proper engine operation and maximum performance.

Charge Air Cooler Hoses

Charge air cooler hoses shall be made from high-temperature, wire-reinforced silicone to withstand the extremely high temperatures and pressures of the turbocharged air. The hoses shall incorporate a flexible hump section to allow motion and misalignment of the engine relative to the charge air cooler. Charge air cooler hose clamps shall be heavy-duty, constant-torque, T-bolt clamps to ensure proper sealing under all temperatures in order to keep dust and other contaminants out of the engine intake air stream and protect the engine.

Fan/Shroud

The fan shall be 30" in diameter with eleven (11) blades for maximum airflow and dynamic balance. It shall be made of nylon for strength and corrosion resistance. The fan shall be installed with grade 8 hardware which has been treated with thread locker for additional security. A fan shroud attached to the radiator shall be provided to prevent recirculation of engine compartment air around the fan in order to maximize the cooling airflow through the radiator. The fan shroud shall be constructed of fiber-reinforced high temperature plastic. The shroud shall be specifically formed with curved surfaces which improves air flow and cooling.

Transmission Cooler

The cooling system shall include a liquid-to-liquid transmission cooler capable of cooling the heat generated from the transmission. When a transmission retarder is selected, the cooler shall have an increased capacity to handle the additional heat load.

Fuel System

One (1) 65 gallon fuel tank shall be provided. The tank shall be of an all-welded, aluminized-steel construction with anti-surge baffles and shall conform to all applicable Administration (FHWA) 393.65 and 393.67 standards. The tank shall be mounted below the frame rails at the rear of the chassis for maximum protection. The tank shall be secured with two (2) wrap-around T-bolt type stainless steel straps. Each strap shall be fitted with protective rubber insulation and shall be secured with Grade 8 hardware. This design allows for tank removal from below the chassis.

The fuel tank shall be equipped with a 2" diameter filler neck. The filler neck shall extend to the rear of the vehicle behind the rear tires and away from the heat of the exhaust system as required by NFPA 1901 Standard for Automotive Fire Apparatus. The open end of the filler neck shall be equipped with a twist-off filler cap with a retaining chain.

The tank shall be plumbed with top-draw and top-return fuel lines in order to protect the lines from road debris. Bottom-draw and/or bottom-return fuel lines are not acceptable. A vent shall be provided at the top of the tank. The vent shall be connected to the filler neck to prevent splash-back during fueling operations. A .50" NPT drain plug shall be provided at the bottom of the tank.

The tank shall have a minimum useable capacity of 65 gallons of fuel with a sufficient additional volume to allow for thermal expansion of the fuel without overflowing the vent.

A fuel pump shall be provided and sized by the engine manufacturer as part of the engine.

Fuel Line

All fuel lines shall be rubber.

320 Amp Alternator

There shall be a 320 amp Leece Neville alternator installed as specified. The alternator shall be a Leece Neville 4890JB series brushless type with integral rectifier and adjustable voltage regulator with an output of 275 amps per NFPA 1901 rating (320 amps per SAE J56).

Battery System

The manufacturer shall supply four (4) heavy duty Group 31 12-volt maintenance-free batteries. Each battery shall be installed and positioned so as to allow easy replacement of any single battery. Each battery shall be equipped with carrying handles to facilitate ease of removal and replacement. There shall be two (2) steel frame mounted battery boxes, one (1) on the left frame rail and one (1) on the right frame rail. Each battery box shall be secured to the frame rail with Grade 8 hardware. Each battery box shall hold (2) batteries. The batteries shall have a minimum combined rating of 4,000 (4 x 1000) cold cranking amps (CCA) @ 0 degrees Fahrenheit and 820 (4 x 205) minutes of reserve capacity for extended operation. The batteries shall have 3/8-16 threaded stud terminals to ensure tight cable connections. The battery stud terminals shall each be treated with concentrated industrial soft-seal after cable installation to promote corrosion prevention. The positive and negative battery stud terminals and the respective cables shall be clearly marked to ensure quick and mistake-proof identification.

Batteries shall be placed on non-corrosive rubber matting and secured with hold-down brackets to prevent movement, vibration, and road shock. The hold-down bracket J-hooks shall be cut to fit and shall have all sharp edges removed. The batteries shall be placed in plastic trays to provide preliminary containment should there be leakage of hazardous battery fluids. There shall be two (2) plastic trays, each containing (2) batteries. Each battery tray shall be equipped with a rubber vent hose to facilitate drainage. The rubber vent hose shall be routed to drain beneath the battery box. The batteries shall be positioned in well-ventilated areas.

One (1) positive and one (1) negative jumper stud shall be provided.

Batteries shall have a warranty of twelve (12) months that shall commence upon the date of delivery of the apparatus.

Engine Fan Clutch

The engine shall be equipped with a thermostatically controlled engine cooling fan. The fan shall be belt driven and utilize a clutch to engage when the engine reaches a specified temperature and / or the water pump is engaged (if equipped).

When disengaged, the fan clutch shall allow for improved performance from optional floor heaters, reduced cab interior noise, increased acceleration and improved fuel economy.

The fan shall be equipped with a fail-safe engagement so that if the clutch fails the fan shall engage to prevent engine overheating.

Drivelines

Drivelines shall have a heavy duty metal tube and shall be equipped with Spicer 1810 series universal joints to allow full-transmitted torque to the axle(s). Drive shafts shall be axially straight, concentric with axis and dynamically balanced.

Front Tow Eyes

Two (2) 3/4" thick heavy duty steel tow eyes shall be securely attached to the chassis frame rails at the front of the apparatus. They shall be mounted down below the bumper / cab.

Rear Tow Eyes

Two (2) heavy duty tow eyes made of 3/4" (0.75") thick steel having 2-1/2" diameter holes shall be mounted below the body at the rear of the vehicle to allow towing (not lifting) of the apparatus without damage. The tow eyes will be welded to the lower end of a 5" steel channel that is bolted at the end of the chassis frame rails. The tow eyes shall be painted chassis black.

DEF Tank

A diesel exhaust fluid (DEF) tank with a five (5) gallon capacity shall be provided.

The DEF tank shall include a heater fed by hot water directly from the engine block to prevent the DEF from becoming too cool to operate correctly per EPA requirements. The tank shall include a temperature sensor to control the heater control valve that controls the feed of hot water from the engine to the DEF tank heater.

A sender shall be provided in the DEF tank connected to a level gauge on the cab dash.

The tank shall be located left side below rear of cab.

Power Steering Cooler

A heat exchanger (cooler) shall be installed to maintain desired power steering fluid temperature. The cooler shall be a model DH-073-1-1 with air / oil design rated at 6300 BTU/HR @10 GPM. The cooler shall be mounted in front of the radiator and plumbed with #10 lines.

Cab

The vehicle shall be distinguished by an all-welded aluminum and fully enclosed tilt cab. The cab shall be designed exclusively for fire/rescue service and shall be pre-engineered to ensure long life. It shall incorporate an integral welded substructure of high-strength aluminum alloy extrusions that creates an occupant compartment that is essentially a protective perimeter. The end result is a distinctive structure that is aesthetically appealing, functionally durable, and characterized by increased personnel safety.

The cab shall be constructed from 3/16" (0.188") 3003 H14 aluminum alloy plate roof, floor, and outer skins welded to a high-strength 6063-T6 aluminum alloy extruded subframe. Wall supports and roof bows are 6061 T6 aluminum alloy. This combination of a high-strength, welded aluminum inner structure surrounded on all sides by load-bearing, welded aluminum outer skins provides a cab that is strong, lightweight, corrosion-resistant, and durable.

The inner structure shall be designed to create an interlocking internal "roll-cage" effect by welding two (2) 3" x 3" x 0.188" wall-thickness 6063-T5 aluminum upright extrusions between the 3" x 3" x 0.375" wall-thickness 6061-T6 roof crossbeam and the 2.25" x 3" x 0.375" wall-thickness 6063-T6 subframe structure in the front. An additional two (2) aluminum upright extrusions within the back-of-cab structure shall be welded between the rear roof perimeter extrusion and the subframe structure in the rear to complete the interlocking framework. The four (4) upright extrusions -- two (2) in the front and two (2) in the rear -- shall be designed to effectively transmit roof loads downward into the subframe structure to help protect the occupant compartment from crushing in a serious accident. All joints shall be electrically seam welded internally using aluminum alloy welding wire.

The subframe structure shall be constructed from high-strength 6061-T6 aluminum extrusions welded together to provide a structural base for the cab. It shall include a side-to-side C-channel extrusion across the front, with 3/4" x 2-3/4" (.75" x 2.75") full-width crossmember tubes spaced at critical points between the front and rear of the cab.

The cab floor shall be constructed from 3/16" (0.188") 3003 H14 smooth aluminum plate welded to the subframe structure to give the cab additional strength and to help protect the occupants from penetration by road debris and under-ride collision impacts.

The cab roof shall be constructed from 3/16" (0.188") 3003 H14 aluminum treadplate supported by a grid of fore-aft and side-to-side aluminum extrusions to help protect the occupants from penetration by falling debris and downward-projecting objects. Molded fiberglass or other molded fiber-reinforced plastic roof materials are not acceptable.

The cab roof perimeter shall be constructed from 4" x 6-5/8" (4" x 6.625") 6063-T5 aluminum extrusions with integral drip rails. Cast aluminum corner joints shall be welded to the aluminum roof perimeter extrusions to ensure structural integrity. The roof perimeter shall be continuously welded to the cab roof plate to ensure a leak-free roof structure.

The cab rear skin shall be constructed from 3/16" (0.188") 3003 H14 aluminum plate. Structural extrusions shall be used to reinforce the rear wall.

The left-hand and right-hand cab side skins shall be constructed from 3/16" (0.188") 3003 H14 smooth aluminum plate. The skins shall be welded to structural aluminum extrusions at the top, bottom, and sides for additional reinforcement.

The cab front skins shall be constructed from 3/16" (0.188") 3003 H14 smooth aluminum plate. The upper portion shall form the windshield mask, and the lower portion shall form the cab front. Each front corner shall have a full 9" outer radius for strength and appearance. The left-hand and right-hand sides of the windshield mask shall be welded to the left-hand and right-hand front door frames, and the upper edge of the windshield mask shall be welded to the cab roof perimeter extrusion for reinforcement. The cab front shall

be welded to the subframe C-channel extrusion below the line of the headlights to provide protection against frontal impact.

Cab Exterior

The exterior of the cab shall be 94" wide x 130" long to allow sufficient room in the occupant compartment for up to eight (8) fire fighters. The cab roof shall be approximately 101" above the ground with the flat roof option. The back-of-cab to front axle length shall be a minimum of 58".

Front axle fenderette trim shall be brushed aluminum for appearance and corrosion resistance. Bolt-in front wheel well liners shall be constructed of 3/16" (0.188") composite material to provide a maintenance-free, damage-resistant surface that helps protect the underside of the cab structure and components from stones and road debris.

A large stainless steel cooling air intake grille with an open area of no less than 81% shall be at the front of the cab.

The cab windshield shall be of a two-piece replaceable design for lowered cost of repair. The windshield shall be made from 1/4" (0.25") thick curved, laminated safety glass with a 75% light transmittance automotive tint. A combined minimum viewing area of 2,700-sq. in. shall be provided. Forward visibility to the ground for the average (50th percentile) male sitting in the driver`s seat shall be no more than 11 feet 7 inches from the front of the cab to ensure good visibility in congested areas.

Cab Mounts and Cab Tilt System

The cab shall be independently mounted from the body and chassis to isolate the cab structure from stresses caused by chassis twisting and body movements. Mounting points shall consist of two (2) forward-pivoting points, one (1) on each side; two (2) intermediate rubber load-bearing cushions located midway along the length of the cab, one (1) on each side; and two (2) combination rubber shock mounts and cab latches located at the rear of the cab, one (1) on each side.

An electric-over-hydraulic cab tilt system shall be provided to provide easy access to the engine. It shall consist of two (2) large-diameter, telescoping, hydraulic lift cylinders, one (1) on each side of the cab, with a frame-mounted electric-over-hydraulic pump for cylinder actuation.

Safety flow fuses (velocity fuses) shall be provided in the hydraulic lift cylinders to prevent the raised cab from suddenly dropping in case of a burst hydraulic hose or other hydraulic failure. The safety flow fuses shall operate when the cab is in any position, not just the fully raised position.

The hydraulic pump shall have a manual override system as a backup in the event of an electrical failure. Lift controls shall be located in a compartment to the rear of the cab on the right side of the apparatus. A parking brake interlock shall be provided as a safety feature to prevent the cab from being tilted unless the parking brake is set.

The entire cab shall be tilted through a 42-45 degree arc to allow for easy maintenance of the engine, transmission and engine components. A positive-engagement safety latch shall be provided to lock the cab in the full tilt position to provide additional safety for personnel working under the raised cab.

In the lowered position, the cab shall be locked down by two (2) automatic, spring-loaded cab latches at the rear of the cab. A "cab ajar" indicator light shall be provided on the instrument panel to warn the driver when the cab is not completely locked into the lowered position.

Cab Interior

The interior of the cab shall be of the open design with an ergonomically-designed driver area that provides ready access to all controls as well as a clear view of critical instrumentation.

The engine cover between the driver and the officer shall be a low-rise contoured design to provide sufficient seating and elbow room for the driver and the officer. The engine cover shall blend in smoothly with the interior dash and flooring of the cab. An all-aluminum subframe shall be provided for the engine cover for strength. The overall height of the engine enclosure shall not exceed 23" from the floor at each side and 27" in the center section. The engine cover shall not exceed 41" in width at its widest point.

The rear portion of the engine cover shall be provided with a lift-up section to provide easy access for checking transmission fluid, power steering fluid, and engine oil without raising the cab. The engine cover insulation shall consist of 3/4" dual density fiberglass composite panels with foil backing manufactured to specifically fit the engine cover without modification to eliminate "sagging" as found with foam insulation. The insulation shall meet or exceed DOT standard MVSS 302-1 and V-0 (UI subject 94 Test).

All cab floors shall be covered with a black rubber floor mat that provides an aggressive slip-resistant surface in accordance with current NFPA 1901.

A minimum of 57.25" of floor-to-ceiling height shall be provided in the front seating area of the cab and a minimum of 55.25" floor-to-ceiling height shall be provided in the rear seating area. A minimum of 36" of seated headroom at the "H" point shall be provided over each fenderwell.

The floor area in front of the front seat pedestals shall be no less than 20.5" side to side by 25.0" front to rear for the driver and no less than 20.5" side to side by 26.0" front to rear for the officer to provide adequate legroom.

Battery jumper studs shall be provided to allow jump-starting of the apparatus without having to tilt the cab.

All exposed interior metal surfaces shall be pretreated using a corrosion prevention system.

The interior of the cab shall be insulated to ensure the sound (dbA) level for the cab interior is within the limits stated in the current edition of NFPA 1901. The insulation shall consist of 2 oz. wadding and 1/4" (0.25") foam padding. The padding board shall be backed with 1/4" (0.25") thick reflective insulation. The backing shall be spun-woven polyester. Interior cab padding shall consist of a rear cab headliner, a rear wall panel, and side panels between the front and rear cab doors.

The overhead console and heater cover shall be covered with thermoformed, non-metallic, non-fiber trim pieces to provide excellent scuff and abrasion resistance, as well as chemical stain resistance. The thermoformed material shall comply with Federal Motor Vehicle Safety Standard (FMVSS) 302 for flammability of interior materials.

The vehicle shall use a seven-position tilt and telescopic steering column to accommodate various size operators. An 18" padded steering wheel with a center horn button shall be provided.

A full-width overhead console shall be mounted to the cab ceiling for placement of siren and radio heads, and for warning light switches. The console shall be made from a thermoformed, non-metallic material and shall have easily removable mounting plates.

Storage areas, with hinged access doors, shall be provided below the driver and officer seats. The driver side compartment shall be approximately 19.25" x 17.75" x 5.75" high and the officer side compartment shall be approximately 18.25" x 22.5" x 11" high (19.25" x 17.75" x 5.75" w/ air ride).

The front cab steps shall be a minimum of 8" deep x 24" wide. The first step shall be no more than 24.0" above the ground with standard tires in the unloaded condition per NFPA 1901 standards. The rear cab steps shall be a minimum 12" deep x 21" wide. The first step shall be no more than 24.0" above the ground with standard tires in the unloaded condition per NFPA 1901 standards. The rear steps shall incorporate intermediate steps for easy access to the cab. The steps are to be located inside the doorsill, where they are protected against mud, snow, ice, and weather. The step surfaces shall be aluminum diamond plate with a multi-directional, aggressive gripping surface incorporated into the aluminum diamond plate in accordance with current NFPA 1901.

A black rubber grip handle shall be provided on the interior of each front door below the door window to ensure proper hand holds while entering and exiting the cab. An additional black rubber grip handle shall be provided on the left and right side windshield post for additional handholds.

Cab Doors

There shall be reflective signs on each cab door in compliance with all NFPA requirements.

Four (4) side-opening cab doors shall be provided. Doors shall be constructed of a 3/16" (0.188") aluminum plate outer material with an aluminum extruded inner framework to provide a structure that is as strong as the side skins.

Front cab door openings shall be approximately 36" wide x 71.5" high, and the rear cab door openings shall be approximately 33.75" wide x 73" high. The front doors shall open approximately 75 degrees, and the rear doors shall open approximately 80 degrees.

The doors shall be securely fastened to the doorframes with full-length, stainless steel piano hinges, with 3/8" (0.375") diameter pins for proper door alignment, long life, and corrosion resistance. Mounting hardware shall be treated with corrosion-resistant material prior to installation. For effective sealing, an extruded rubber gasket shall be provided around the entire perimeter of all doors.

Stainless steel paddle-style door latches shall be provided on the interiors of the doors. The latches shall be designed and installed to protect against accidental or inadvertent opening as required by NFPA 1901.

The front door windows shall provide a minimum viewing area of 530 sq. in. each. The rear door windows shall provide a minimum viewing area of 500 sq. in. each. All windows shall have 75% light transmittance automotive safety tint. Full roll-down windows shall be provided for the front cab doors with worm gear

drive cable operation for positive operation and long life. Scissors or gear-and-sector drives are not acceptable.

Cab Instruments and Controls

Two (2) pantograph-style windshield wipers with two (2) separate electric motors shall be provided for positive operation. Air-operated windshield wipers are not acceptable because of their tendency to accumulate moisture, which can lead to corrosion or to freezing in cold weather. The wipers shall be a wet-arm type with a one (1) gallon washer fluid reservoir, an intermittent-wipe function, and an integral wash circuit. Wiper arm length shall be approximately 28", and the blade length approximately 20". Each arm shall have a 70 degree sweep for full coverage of the windshield.

An overhead mounted heater and defroster with a minimum capacity of 60,000 Btu/hr and all necessary controls shall be mounted in the cab. The airflow system shall consist of two (2) levels, defrost and cab, and shall have fresh air and defogging capabilities.

Cab controls shall be located on the cab instrument panel in the dashboard on the driver`s side where they are clearly visible and easily reachable. Emergency warning light switches shall be installed in removable panels for ease of service. The following gauges and/or controls shall be provided:

- Master battery switch/ignition switch (rocker with integral indicator)
- Starter switch/engine stop switch (rocker)
- Heater and defroster controls with illumination
- Marker light/headlight control switch with dimmer switch
- Self-canceling turn signal control with indicators
- Windshield wiper switch with intermittent control and washer control
- Master warning light switch
- Transmission oil temperature gauge
- Air filter restriction indicator
- Pump shift control with green "pump in gear" and "o.k. to pump" indicator lights • Parking brake controls with red indicator light on dash
- Automatic transmission shift console
- Electric horn button at center of steering wheel
- Cab ajar warning light on the message center enunciator

Controls and switches shall be identified as to their function by backlit wording adjacent to each switch, or indirect panel lighting adjacent to the controls.

Fast Idle System

A fast idle system shall be provided and controlled by the cab-mounted switch. The system shall increase engine idle speed to a preset RPM for increased alternator output.

Electrical System

The cab and chassis system shall have a centrally located electrical distribution area. All electrical components shall be located such that standard operations shall not interfere with or disrupt vehicle operation. An automatic thermal-reset master circuit breaker compatible with the alternator size shall be

provided. Automatic-reset circuit breakers shall be used for directional lights, cab heater, battery power, ignition, and other circuits. An access cover shall be provided for maintenance access to the electrical distribution area.

A 6 place, constantly hot and 6 place ignition switched fuse panel and ground for customer-installed radios and chargers shall be provided at the electrical distribution area. Radio suppression shall be sufficient to allow radio equipment operation without interference.

All wiring shall be mounted in the chassis frame and protected from impact, abrasion, water, ice, and heat sources. The wiring shall be color-coded and functionally-labeled every 3" on the outer surface of the insulation for ease of identification and maintenance. The wiring harness shall conform to SAE 1127 with GXL temperature properties. Any wiring connections exposed to the outside environment shall be weather-resistant. All harnesses shall be covered in a loom that is rated at 280 degrees F to protect the wiring against heat and abrasion.

A Vehicle Data Computer (VDC) shall be supplied within the electrical system to process and distribute engine and transmission Electronic Control Module (ECM) information to chassis system gauges, the message center, and related pump panel gauges. Communication between the VDC and chassis system gauges shall be through a 4 wire multiplexed communication system to ensure accurate engine and transmission data is provided at the cab dash and pump. The VDC shall be protected against corrosion, excessive heat, vibration, and physical damage.

Two (2) dual rectangular sealed beam halogen headlights shall be installed on the front of the cab, one (1) on each side, mounted in a polished chrome-plated bezel. The low beam headlights shall activate with the release of the parking brake to provide daytime running lights (DRL) for additional vehicle conspicuity and safety. The headlight switch shall automatically override the DRL for normal low beam/high beam operation.

Cab Crashworthiness Requirement

The apparatus cab shall meet and/or exceed relevant NFPA 1901 load and impact tests required for compliance certification with the following:

Side Impact Dynamic Pre-Load per SAE J2422 (Section 5).

Testing shall meet and/or exceed defined test using 13,000 ft-lbs of force as a requirement. The cab shall be subject to a side impact representing the force seen in a roll-over. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space, doors shall remain closed and cab shall remain attached to frame.

Cab testing shall be completed using 13,776 ft-lbs of force **exceeding** testing requirements.

Quasi-static Roof Strength (proof loads) per SAE J2422 (Section 6) / ECE R29, Annex 3, paragraph 5.

Testing shall meet and/or exceed defined test using 22,046 lbs of mass as a requirement. Testing shall be completed using platen(s) distributed uniformly over all bearing members of the cab roof structure.

Cab testing shall be completed using 23,561 lbs of mass **exceeding** testing requirements. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space and doors shall remain closed.

Additional cab testing shall be conducted using 117,336 lbs of mass **exceeding** testing requirements by **over five (5) times**. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space and the doors shall remain closed.

Frontal Impact per SAE J2420.

Testing shall meet and/or exceed defined test using 32,549 ft-lbs of force as a requirement. The cab shall be subject to a frontal impact as defined by the standard. The cab shall exhibit minimal to no intrusion into the cab's occupant survival space, doors shall remain closed and cab shall remain attached to frame.

Cab testing shall be completed using 34,844 ft-lbs of force **exceeding** testing requirements.

Additional cab testing shall be conducted using 65,891 ft-lbs of force **exceeding** testing requirements by **over two (2) times**.

A copy of a certificate or letter verifying compliance to the above performance by an independent, licensed, professional engineer shall be provided upon request.

For any or all of the above tests, the cab manufacturer shall provide either photographs or video footage of the procedure upon request.

Rear Cab Door Position

The cab rear doors shall be moved to the rear of the wheel opening. This door placement facilitates easier entry and egress by reducing the rear facing seat protrusion into the door opening.

Rear door position to the 58" or (medium cab).

Cab Front Door Windows

Driver and officer door windows shall have the support pillar located toward the front of the window. There shall be a vent that can be opened and closed within the window itself, located towards the front.

Cab Door Locks

Each cab door shall have a manual operated door lock actuated from the interior of each respective door. Exterior of each cab door shall be provided with a barrel style keyed lock below the cab door handle.

Cab Door Locks

The cab shall have CH751 keyed door locks provided on exterior doors to secure the apparatus.

Cab Door Front Windows

Driver and Officer door windows. Includes electric roll-down actuation. Each door to have individual control at door position and the driver door is to have master control for all power window locations.

Cab Door Rear Windows

Rear crew cab door windows. Includes electric roll-down actuation. Each door to have individual control.

Cab Door Panels

The inner door panels shall be made from 14 gauge brushed finish stainless steel for increased durability. The cab door panels shall incorporate an easily removable panel for access to the latching mechanism for maintenance or service.

Cab Door Exterior Latches

All cab doors shall have "L" style exterior door latches.

Cab Door Area Lighting

There shall be four (4) clear LED lights provided to illuminate the cab step well area. Each light shall be located on each cab door in the inboard position. Each light shall be activated by the cab door ajar circuit.

Cab Door Reflective Material

Reflective red/amber yellow Diamond Grade material striping shall be supplied on each of the cab doors. The stripes shall run from the lower outer corner to the upper inside corner of the panel, forming an "A" shape when viewed from the rear. The material shall meet NFPA 1901 requirements for size (96 square inches) and reflectivity.

Cab Mirrors

Two (2) Velvac model 2010 heated, remote controlled, stainless steel mirrors shall be installed. The west coast style mirrors shall consist of a large 7" x 16" flat and 4" x 6" wide angle convex with stainless steel break-away mounts. The adjustment of the main sections of the mirror and the heater control shall be through switches accessible to the driver.

Convex Mirror

Retrac stainless steel 10" 3-Arm Convex mirror. (3) piece adjustable telescoping arm assembly (model 604671) and a 10" stainless steel center mounted convex head (model 604953). Mirror shall be mounted horizontally above the officer`s position to permit rapid viewing of the rear cab area.

Cab Windows Rear Wall

Fixed glass windows shall be supplied on either side of the cab, providing visibility at the rear. The windows shall be approximately 4" wide and approximately the same height as the door windows.

Cab Canopy Window

There shall be a fixed window provided between the front and rear doors on the driver and officer`s side of the cab.

Front Mudflaps

Black linear low density polyethylene mudflaps shall be installed on the rear of the cab front wheel wells. The design of the mudflaps shall have corrugated ridges to distribute water evenly.

Handrails

Cab door assist handrails shall consist of two (2) 1.25" diameter x 18" long 6063-T5 anodized aluminum tubes mounted directly behind the driver and officer front and rear door openings one each side of the cab. The handrails shall be machine extruded with integral ribbed surfaces to assure a good grip for personnel safety. Handrails shall be installed between chrome end stanchions and shall be positioned at least 2" from the mounting surface to allow a positive grip with a gloved hand.

Rear Cab Wall Construction

The rear cab wall shall be constructed with the use of 3/16" aluminum diamond plate interlocking in aluminum extrusions.

Receptacle Mounting Plate

A mounting plate shall be provided for the battery charger receptacle, battery charger indicator and if applicable the air inlet. The plate shall be constructed of 14 gauge brushed finish stainless steel and be removable for service access to the receptacle(s) and indicator.

Air Conditioning

An overhead air-conditioner / heater system with a single roof mounted condenser shall be supplied.

The unit shall be mounted to the cab interior headliner in a mid cab position, away from all seating positions. The unit shall provide ten (10) comfort discharge louvers, four (4) to the back area of the cab and six (6) to the front. These louvers will be used for AC and heat air delivery. Two (2) additional large front louvers shall be damper controlled to provide defogging and defrosting capabilities to the front windshield as necessary.

The unit shall consist of a high output evaporator coil and heater core with one (1) high output dual blower for front air delivery, and two (2) high performance single wheel blowers for rear air delivery.

A serviceable filter shall be installed on the A/C evaporator. The filter shall consist of a steel perimeter frame with a foam filter.

The control panel shall actuate the air-distribution system with air cylinders, which are to be separated from the brake system by an 85-90 psi pressure protection valve. A three-speed blower switch shall control air speed.

The condenser shall be roof mounted and have a minimum capacity of 65,000 BTU`s and have dual fans with a built in receiver drier.

Performance Data: (Unit only, no ducting or louvers)

AC BTU: 55,000

Heat BTU: 65,000

CFM : 1300 @ 13.8V (All blowers)

The compressor shall be a ten-cylinder swash plate type Seltec model TM-31HD with a capacity of 19.1 cu.in. per revolution.

The system shall be capable of cooling the interior of the cab from 100 degrees ambient to 75 degrees or less with 50% relative humidity in 30 minutes or less.

HVAC Control Location

Heating and air conditioning controls shall be located in the center dash area upper tier offset to driver side.

Cab Seating

All cab seats shall be gray Bostrom brand with Durawear material.

One (1) H. O. Bostrom Sierra EX8/ABTS seat with high back styling shall be provided for the driver`s position.

The ABTS (All-Belts-To-Seat) design shall include a bright red 3-point integrated seat belt with an additional 8-12" of additional useable belt webbing for easy access and comfort—increasing seat belt usage amongst firefighters and rescue personnel.

Seat features shall include:

- Power fore/aft with 8" adjustment
- Power height with 2" adjustment
- Power front seat tilt
- Power rear seat tilt
- Power back recline
- Built in lumbar support

One (1) Bostrom Tanker 450 ABTS seat with high back SCBA storage shall be provided in the officer position.

The ABTS (All-Belts-To-Seat) design shall include a bright red 3-point integrated seat belt with an additional 8-12" of additional useable belt webbing for easy access and comfort—increasing seat belt usage amongst firefighters and rescue personnel.

Seat features shall include:

- Removable "Store-All" side cushions
- Auto-pivot and return headrest to open for improved exit with SCBA
- 12.5" wide SCBA cavity to store leading SCBA brands
- Shoulder strap holder
- Replaceable seat, side and headrest cushions

One (1) Bostrom Tanker 450 ABTS seat with high back SCBA storage shall be provided in the rear facing position over the driver side wheel well.

The ABTS (All-Belts-To-Seat) design shall include a bright red 3-point integrated seat belt with an additional 8-12" of additional useable belt webbing for easy access and comfort—increasing seat belt usage amongst firefighters and rescue personnel.

Seat features shall include:

- Removable "Store-All" side cushions
- Auto-pivot and return headrest to open for improved exit with SCBA
- 12.5" wide SCBA cavity to store leading SCBA brands
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One (1) Bostrom Tanker 450 ABTS seat with high back SCBA storage shall be provided in the rear facing position over the officer side wheel well.

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Seat features shall include:

- Removable "Store-All" side cushions
- Auto-pivot and return headrest to open for improved exit with SCBA
- 12.5" wide SCBA cavity to store leading SCBA brands
- Shoulder strap holder
- Replaceable seat, side and headrest cushions

Two (2) Bostrom SCBA backs and a two (2) person bench style seat with a single bottom cushion shall be mounted on an aluminum seat riser or the rear wall of the cab. Each side of the seat riser shall be angled, providing sufficient legroom when entering and exiting the cab.

Features shall include:

- Removable "Store-All" side cushions.
- Auto-pivot and return headrest to open for improved exit with SCBA.
- 12.5" wide SCBA cavity to store leading SCBA brands.
- Built-in lumbar support.
- Replaceable seat, side and headrest cushions.

All seat positions shall have a bright red retractable 3-point lap and shoulder harness, providing additional safety and security for personnel. Extensions shall be provided with the seat belts so the male end can be easily grasped and the female end easily located while sitting in a normal position.

Bostrom SecureAll Locking System

The H.O. Bostrom SecureAll™ SCBA Locking System shall be one bracket model and store all U.S. and international SCBA brands and sizes while in transit or for storage on fire trucks. The bracket shall be easily adjustable; all adjustment points shall utilize similar hardware and adjustments shall be made with one tool.

The bracket system shall be free of straps and clamps that may interfere with auxiliary equipment on SCBA units. The center guide fork shall keep the tank in-place for a safe and comfortable fit in seat cavity. Firefighters shall simply push the SCBA unit against the pivot arm to engage the patented auto-locking system. Once the lock is engaged, the top clamp shall surround the top of the SCBA tank for a secure fit in all directions.

The SecureAll™ bracket shall fit in all H.O. Bostrom Tanker SCBA seats including ABTS and non-ABTS seats and all flip-up ABTS and non-ABTS seats. Additional seat depth shall not be required for proper bracket fit; changes to the shroud back shall not be required for proper mounting of the bracket.

The standard release handle shall be integrated into the seat cushion for quick and easy release and shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

The H.O. Bostrom SecureAll™ system meets NFPA 1901 standards and requirements of EN 1846-2.

Location: officer's seat, rear facing driver's side, rear facing officer's side.The bracket(s) shall be located officer's seat, rear facing driver's side, rear facing officer's side.

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The standard release handle shall be integrated into the seat cushion for quick and easy release and shall eliminate the need for straps or pull cords to interfere with other SCBA equipment.

The H.O. Bostrom SecureAll™ system meets NFPA 1901 standards and requirements of EN 1846-2.

The bracket(s) shall be located inboard driver's side rear wall, inboard officer's side rear wall.

Map Box

An aluminum map/storage box shall be installed in the cab. The map box shall be constructed of 1/8" (.125) inch smooth aluminum and shall match the design that the department currently has. The mapbox shall also have a hinged lid with push button latches.

Cab Interior Color

Cab instrument panel, overhead console, trim panels, headliner, and door panels shall be gray.

Sun Visors

Padded sun visors shall be provided for the driver and officer matching the interior trim of the cab and shall be flush mounted into the underside of the overhead console.

Air Horn Lanyard

There shall be a "Y" style lanyard mounted in the center of the cab that allows the driver and officer to operate the air horns. The lanyard shall activate an electrical air switch.

Cab Dash - Severe Duty

The center and officer side dash shall be constructed from .125" smooth aluminum plate painted to match the cab interior. A hinged access panel shall be provided on top of the center dash to provide easy access to components within.

The lower kick panels below the dash to be constructed from .125 aluminum plate painted to match the cab interior. The panels shall be removable to allow for servicing components that may be located behind the panels.

Engine Cover

The engine cover shall blend in smoothly with the interior dash and flooring of the cab. The upper left and right sides shall have a sloped transition surface running front to rear providing increased space for the driver and officer.

The engine cover and engine service access door cover shall be molded 18 lb/cu. ft. (+/-0.5) flexible integral skinned polyurethane foam at a Durometer of 60 (+/- 5.0) per ASTM F1957-99. The cover shall be approximately .5" thick with a minimum skin thickness of 0.0625 inches. The cover shall be provided to reduce the transmission of noise and heat from the engine. The cover shall be black and feature a pebble grain finish for slip resistance.

Cab Dome Lights

A Weldon LED dome light assembly with one (1) white lens and one (1) red lens and plastic housing shall be installed. The white light activates with appropriate cab door and light assembly switch, the red light activates with light assembly mounted switch only.

There shall be two (2) mounted in the front of the cab, one (1) in the driver and one (1) in the officer ceiling.

There shall be two (2) mounted in the rear of the cab, one (1) in the driver side and one (1) in the officer side ceiling.

Battery Charger Receptacle

A 20 amp battery charger receptacle shall be installed in the specified location.

The receptacle shall be located outside driver's door next to handrail.

The cover color shall be Red.

English Dominant Gauge Cluster

The cab operational instruments shall be located in the dashboard on the driver side of the cab and shall be clearly visible. The gauges in this panel shall be English dominant and shall be the following:

- Speedometer/Odometer
- Tachometer with integral hour meter
- Engine oil pressure gauge with warning light and buzzer
- Engine water temperature gauge with warning light and buzzer
- Two (2) air pressure gauges with a warning light and buzzer (front air and rear air)
- Fuel gauge
- Voltmeter
- Transmission oil temperature gauge

This panel shall be backlit for increased visibility during day and night time operations.

Headlights

The front of the cab shall have four (4) headlights. The headlights shall be mounted on the front of the cab in the lower position. The headlights shall be day time operational.

Battery Charger/Air Compressor

A Kussmaul Auto-Charge 1200 battery charger and air compressor with automatic battery charger shall be installed.

The battery charger shall be completely automatic with an output of 0-40 amps @ 12 volts DC and an input current requirement of 10 amps @ 120 volts AC.

A Kussmaul air compressor with automatic battery conditioner model 091-9-1200 shall be installed. The battery conditioner is completely automatic with a 0-40 amp output to maintain the charge in the battery system. The air compressor shall be powered by a 12 volt DC output from the battery charger and has an output of .30 cfm at 80 PSI. A pressure switch senses the system pressure and operates the compressor whenever the pressure in the air brake system drops below a pre-determined level.

12 Volt Cab Outlets

A plug-in type receptacle for hand held spotlights, cell phones, chargers, etc. shall be installed driver side dash, officer side dash. The receptacle shall be wired battery hot.

Antenna Bases

There shall be two (2) Tessco P/N 90942 universal antenna bases mounted on the cab roof with a weatherproof connector. The antenna base shall be NMO Motorola Style (equivalent to a MATM style). The antenna shall be located officer side forward with coaxial cable terminating at the center of the dash board, driver side forward with coaxial cable terminating at the center of the overhead console.

Battery Charger Location

The battery charger shall be located behind driver's seat.

Air Compressor Location

The air compressor shall be located behind driver's seat.

Cab Turn Signals

There shall be a pair of Whelen M6 LED (Light Emitting Diode) turn signal light heads with populated arrow pattern and amber lens mounted upper headlight bezel and wired with weatherproof connectors.

LED Cab Headlights

JW Speaker LED headlight model 8800 shall be provided. LED lights shall be provided in the low and high beam position of the head lamp assembly.

Cab USB Charging Ports

A dual USB charging port for cell phones, chargers, etc. shall be installed driver side dash, officer side dash. The receptacles shall be wired battery hot.

DPF Regeneration Override

A momentary override switch shall be provided for the Diesel Particulate Filter (DPF) regeneration. The switch will inhibit the regeneration process until the switch is reset or the engine is shut down and restarted. The switch shall be located within reach of the driver.

Tailboard

Tailboard shall be shortened to 8" and be made out of 1/8" diamond plate, supported by T6 extrusions. Tailboard is gator grip and runs full width of the body. The tailboard is bolted to the body.

Driver Side Assembly

The driver side assembly shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. This aluminum modular design shall provide a high strength-to-weight ratio for increased equipment carrying capacity.

The driver side body corners shall be 6063-T5 extruded aluminum corner sections with a 3/16" (0.188") wall thickness. The side body extrusions shall be 6063-T5 aluminum tubing with a 3/16" (0.188") wall thickness and 3/16" (0.188") outside corner radius. The corners and sides shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

The driver side body shall be completely sanded and deburred to assure a smooth finish and painted job color.

Driver Side Compartments

The three (3) driver side compartments shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.

There shall be one (1) compartment located ahead of the rear wheels. This compartment shall be approximately 24" wide x 68" high x 26" deep in the lower 30" high section and 12" deep in the upper 38" high section. The compartment shall contain approximately 17.2 cu. ft. of combined storage space. The door opening shall be approximately 17" wide x 68" high.

There shall be one (1) compartment located over the rear wheel. The compartment shall be approximately 56" wide x 34" high x 12" deep and contain approximately 13.2 cu. ft. of storage space. The door opening shall be approximately 56" wide x 34" high.

There shall be one (1) compartment located behind the rear wheel. The compartment shall be approximately 42" wide x 68" high x 26" deep in the lower 30" high section and 12" deep in the upper 38" high section and contain approximately 30 cu. ft. of combined storage space. The lower area of this compartment shall be transverse through to the rear compartment(s). The door opening shall be approximately 42" wide x 68" high.

Each compartment seam shall be sealed using a permanent pliable silicone caulk. The walls of each compartment shall be machine-louvered for adequate ventilation.

An externally-mounted compartment top shall be provided and constructed of a 1/8" (.125") aluminum treadplate.

Officer Side Assembly

The officer side assembly shall be constructed entirely of aluminum extrusions and interlocking aluminum plates. This aluminum modular design shall provide a high strength-to-weight ratio for increased equipment carrying capacity.

The officer side body corners shall be 6063-T5 extruded aluminum corner sections with a 3/16" (0.188") wall thickness. The side body extrusions shall be 6063-T5 aluminum tubing with a 3/16" (0.188") wall

thickness and 3/16" (0.188") outside corner radius. The corners and sides shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

The officer side body shall be completely sanded and deburred to assure a smooth finish and painted job color.

Officer Side Compartments

The two (2) officer side compartments shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartments shall be modular in design and shall not be a part of the body support structure.

There shall be one (1) compartment located ahead of the rear wheels. This compartment shall be approximately 24" wide x 30" high x 26" deep. The compartment shall contain approximately 10.8 cu. ft. of combined storage space. The door opening shall be approximately 24" wide x 30" high.

There shall be one (1) compartment located behind the rear wheel. The compartment shall be approximately 42" wide x 30" high x 26" deep. The compartment shall contain approximately 19 cu. ft. of combined storage space. The lower area of this compartment shall be transverse through to the rear compartment(s). The door opening shall be approximately 42" wide x 30" high.

Each compartment seam shall be sealed using a permanent pliable silicone caulk. The walls of each compartment shall be machine-louvered for adequate ventilation.

An externally-mounted compartment top shall be provided and constructed of a 1/8" (.125") aluminum treadplate. The compartment top shall be removable for easy access to the main body wiring harness.

Ladder Storage

Ladder storage shall be provided over the officer side compartment top.

There shall be two (2) aluminum adjustable ladder tracks vertically-mounted to the hosebed side. There shall be two (2) cast ladder brackets provided with spring-loaded hold-down handles mounted in the adjustable ladder tracks. Brackets shall be provided to protect the painted body side surface.

Rear Body Assembly

The rear body shall be constructed entirely of aluminum extrusions and interlocking aluminum plates and includes a full height center rear compartment.

The rear body frame shall be 6063-T5 1.5" x 4" and 1.5" x 3"aluminum extrusions with a 3/16" (0.188") wall thickness and 3/16" (0.188") outside corner radius and 1/8" (0.125") smooth plate. The rear extrusions shall be welded both internally and externally at each joint using an aluminum alloy welding wire.

Rear Body Compartment

The full height center rear compartment shall be constructed from 3003 H14 1/8" (.125") smooth aluminum plate. The compartment shall be modular in design and shall not be a part of the body support structure.

The compartment shall be approximately 38" wide and shall vary in height and depth dependent upon water tank capacity. The lower area of this compartment shall be transverse through to the side rear compartments.

The compartment seams shall be sealed using a permanent pliable silicone caulk. Machined louvers shall be provided for adequate ventilation.

Upper Rear Compartment Depth

The upper rear compartment depth shall be reduced to allow for a lowered overall hosebed height from the ground.

Single Compartment Doors

A single compartment door shall be constructed using a box pan configuration. The outer door pan shall beveled and shall be constructed from 3/16" (0.188") aluminum plate. The inner door pan shall be constructed from 1/8" (0.125") smooth aluminum plate and shall have nutsert fittings to attach hold-open hardware. The inner pan shall have a 95-degree bend to form an integral drip rail.

The compartment door shall have a 1" x 9/16" (1" x 0.43") closed-cell "P" EPDM sponge gasket meeting ASTM D-1066 2A4 standards installed around the perimeter of the door to provide a seal that is resistant to oil, sunlight, and ozone.

A drain hole shall be installed in the lower corner of the inside door pan to assist with drainage.

A polished stainless steel Hansen D-ring style twist-lock door handle a with #459 latch shall be provided on the door. The 4-1/2" (4.5") D-ring handle shall be mounted directly to the door latching mechanism with screws that do not penetrate the door material for improved corrosion resistance.

The compartment door shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment door with a dielectric barrier. The door shall be attached with machine screws threaded into the doorframe. The door shall have a gas shock-style hold-open device.

An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.

The door(s) shall be installed in the following location(s): L1, R1

Single Compartment Door

A single compartment door shall be constructed using a box pan configuration. The outer door pan shall beveled and shall be constructed from 3/16" (0.188") aluminum plate. The inner door pan shall be constructed from 1/8" (0.125") smooth aluminum plate and shall have nutsert fittings to attach hold-open hardware. The inner pan shall have a 95-degree bend to form an integral drip rail.

The compartment door shall have a 1" x 9/16" (1" x 0.43") closed-cell "P" EPDM sponge gasket meeting ASTM D-1066 2A4 standards installed around the perimeter of the door to provide a seal that is resistant to oil, sunlight, and ozone.

A drain hole shall be installed in the lower corner of the inside door pan to assist with drainage.

A polished stainless steel Hansen D-ring style twist-lock door handle a with #459 latch shall be provided on the door. The 4-1/2" (4.5") D-ring handle shall be mounted directly to the door latching mechanism with screws that do not penetrate the door material for improved corrosion resistance.

The compartment door shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment door with a dielectric barrier. The door shall be attached with machine screws threaded into the doorframe. The door shall have gas shock-style hold-open devices.

An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.

The door(s) shall be installed in the following location(s): L2

Double Compartment Door

Double compartment doors shall be constructed using a box pan configuration. The outer door pans shall beveled and shall be constructed from 3/16" (0.188") aluminum plate. The inner door pans shall be constructed from 1/8" (0.125") smooth aluminum plate and shall have nutsert fittings to attach hold-open hardware. The inner pans shall have a 95-degree bend to form an integral drip rail.

The compartment doors shall have a 1" x 9/16" (1" x 0.43") closed-cell "P" EPDM sponge gasket meeting ASTM D-1066 2A4 standards installed around the perimeter of the doors to provide a seal that is resistant to oil, sunlight, and ozone.

A drain hole shall be installed in the lower corner of the inside door pan to assist with drainage.

A polished stainless steel Hansen D-ring style twist-lock door handle a with #459 latch shall be provided on the primary door. The 4-1/2" (4.5") D-ring handle shall be mounted directly to the door latching mechanism with screws that do not penetrate the door material for improved corrosion resistance.

The secondary door shall have a dual stage rotary latch with a 750 lb rating to hold the door in the closed position. The latch shall be mounted at the top of the door. A stainless steel paddle style handle shall be mounted on the interior pan of the door to actuate the rotary latch. The paddle handle shall be connected to the rotary latch by a 5/32" (.156") diameter rod. Cable actuation shall be deemed un-acceptable due to the potential for cable stretch and slippage. The striker pin shall be 3/8" (.38") diameter with slotted mounting holes for adjustment.

The compartment doors shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment doors with a dielectric barrier. The doors shall be attached with machine screws threaded into the doorframe.

The doors shall have a gas shock-style hold-open device. The gas shocks shall have a 30 lb rating and be mounted near the top of the door (when possible).

An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.

The door(s) shall be installed in the following location(s): R2

Double Compartment Door

Double compartment doors shall be constructed using a box pan configuration. The outer door pans shall beveled and shall be constructed from 3/16" (0.188") aluminum plate. The inner door pans shall be constructed from 1/8" (0.125") smooth aluminum plate and shall have nutsert fittings to attach hold-open hardware. The inner pans shall have a 95-degree bend to form an integral drip rail.

The compartment doors shall have a 1" x 9/16" (1" x 0.43") closed-cell "P" EPDM sponge gasket meeting ASTM D-1066 2A4 standards installed around the perimeter of the doors to provide a seal that is resistant to oil, sunlight, and ozone.

A drain hole shall be installed in the lower corner of the inside door pan to assist with drainage.

A polished stainless steel Hansen D-ring style twist-lock door handle a with #459 latch shall be provided on the primary door. The 4-1/2" (4.5") D-ring handle shall be mounted directly to the door latching mechanism with screws that do not penetrate the door material for improved corrosion resistance.

The secondary door shall have two (2) dual stage rotary latches, each with a 750 lb rating to hold the door in the closed position. The latches shall be mounted at the top and bottom of the door. A stainless steel paddle style handle shall be mounted on the interior pan of the door to actuate the rotary latches. The paddle handle shall be connected to the rotary latches by 5/32" (.156") diameter rods. Cable actuation shall not be deemed un-acceptable due to the potential for cable stretch and slippage. The striker pins shall be 3/8" (.38") diameter with slotted mounting holes for adjustment.

The compartment doors shall be securely attached to the apparatus body with a full-length stainless steel 1/4" (0.25") rod piano-type hinge isolated from the body and compartment doors with a dielectric barrier. The doors shall be attached with machine screws threaded into the doorframe.

The doors shall have a gas shock-style hold-open device. The gas shocks shall have a 30 lb rating and be mounted near the top of the door (when possible).

An anodized aluminum drip rail shall be mounted over the compartment opening to assist in directing water runoff away from the compartment.

The door(s) shall be installed in the following location(s): L3

Roll-Up Door

A ROM brand roll up door with satin finish shall be provided on a compartment greater than 45" tall. The door(s) shall be installed in the following location(s): B1.

The Robinson door slats shall be double wall box frame and manufactured from anodized aluminum. The slats shall have interlocking end shoes on each slat. The slats shall have interlocking joints with a PVC/vinyl inner seal to prevent any metal to metal contact and inhibit moisture and dust penetration.

The track shall be anodized aluminum with a finishing flange incorporated to provide a finished look around the perimeter of the door without additional trim or caulking. The track shall have a replaceable side seal to prevent water and dust from entering the compartment.

The doors shall be counterbalanced for ease in operation. A full width latch bar shall be operable with one hand, even with heavy gloves. Securing method shall be a positive latch device.

A magnetic type switch integral to the door shall be supplied for door ajar indication and compartment light activation.

The door opening shall be reduced by 2" in width and approximately 8-9" in height depending on door height.

Bolt-In Compartment Dividers

Removable bolt-in compartment dividers shall be located between L3/B1, and R2/B1.

Running Board Suction Trays

A running board suction hose storage tray "floating style" shall be provided and located in the driver side running board, officer side running board.

The tray shall be "floating style" mounted and constructed of 1/8" (.125") aluminum diamond plate (exterior) with a smooth sanded surface interior. The bottom of the tray shall have removable aluminum slats and drain holes to allow water drainage from hose stored in the tray. The tray shall have a 3" tapered front corner to protect tray againist debris. The tray shall be removable for the running board.

Rear Hosebed Cover

A cover constructed of Red 18 oz. PVC vinyl coated polyester shall be installed at the rear apparatus hosebed. The base fabric shall be 1000 x 1300 Denier Polyester with a fabric count of 20 x 20 per square inch.

The top of the cover shall be mechanically attached to the rear hosebed cover extrusion. The lower portion of the cover shall be secured in place with heavy duty nylon straps to comply with the latest edition of NFPA 1901.

Hosebed Cover

The hosebed area shall have a two (2) piece light weight aluminum hosebed cover. The hosebed cover shall be provided in compliance with NFPA.

Each hosebed cover shall be constructed of an aluminum extrusion frame with a 1/8" (.125") embossed aluminum treadplate top. Each cover door shall be securely attached to the hosebed side with a full-length stainless steel piano type hinge. The hinge shall have 1/4" pins and shall be "staked" on every other knuckle to prevent pin slippage.

Each cover shall include two (2) hold opens per cover. The forward area of the cover shall have one (1) pneumatic shock. The rear of the cover shall have one (1) positive hold open/hold closed that shall include one (1) manually engaged securing pin.

Each cover shall include two (2) assist handles, one (1) grab handle (forward) and one (1) hand rail (rearward). The rearward handrails shall be installed in compliance with current NFPA. The handrails shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.

The water tank fill tower(s) shall be accessible with the covers in the closed position through a diamond plate door (or as applicable). The fill tower access door shall be constructed of 1/8" (.125") embossed aluminum treadplate. The door shall be hinged and shall include one (1) hold down.

The covers shall be supported in the closed position by a center mounted hosebed divider. The divider shall be constructed of 1/4" (.250") smooth aluminum plate with a scotch-brite finish. The divider shall run the full length of the hosebed and shall include an upper "C" channel extrusion base. The rear of the divider shall be recessed rearward to allow for looping of hose from one side of the divider to the other (as applicable).

Each cover door shall be wired to the door ajar indicator light in the cab and shall be interlocked with the parking brake per NFPA.

Requires intermediate rear step except for extended enhanced compartments.

Crosslay Cover

A crosslay cover shall be provided for the crosslay storage area of the pump module. The crosslay cover shall be provided in compliance with NFPA 1901.

The crosslay cover shall be constructed from 3/16" (.187") aluminum treadplate. The cover shall include a full-length stainless steel 1/4" (0.25") rod piano-type hinge. The cover shall be hinged to open and not interfere with applicable plumbing components on the apparatus.

The crosslay cover shall include applicable grab handle(s) and two (2) hold downs to secure the cover in the closed position. The cover shall be labeled as a non-stepping surface in non-aerial applications.

Crosslay Cover Hinge

The crosslay cover shall be hinged along the forward edge of the crosslay area.

Crosslay Cover - Sides

A pair of covers constructed of Red 18 oz. PVC vinyl coated polyester shall be installed over the side openings of the apparatus crosslay. The base fabric shall be 1000 x 1300 Denier Polyester with a fabric count of 20 x 20 square inch.

The covers shall be secured in place to comply with the latest edition of NFPA 1901.

Running Board Hose Tray Cover

A heavy duty black nylon strap with an aluminum quick-release buckle shall be provided for the running board hose tray(s). The strap shall be attached to the inboard side of the tray as low as practical to allow cinching of strap for securing tray contents and shall not reduce the overall tray capacity.

Location: driver side running board, officer side running board.

Pump Module

Pump Module Frame

An extruded aluminum pump module shall be provided and located forward of the apparatus body. The pump module shall be constructed entirely of welded aluminum alloy extrusions and interlocking aluminum plates. The pump module framework shall consist of 1.5" x 3" x .188" wall, 1.5" x 3" x .375" wall with center web and 3" x 3" x .188" wall extrusions.

The pump module design and mounting shall be separate from the body to allow the pump module and body to move independently of each other in order to reduce stress from frame twisting and vibration.

The exterior surface of the pump module framework shall have a sanded finish.

Pump Module Mounting

The pump module shall be attached to the chassis using four (4) center bonded isolation mounts and a steel mounting frame. The isolation mounts shall be 2.75" diameter and mount to the chassis with two (2) 4" x 4" x .312" A36 steel angles.

Pump Access

A pump service access door shall be provided at the front of the pump module. The door shall be secured with two (2) thumb latches. (Access door not provided on fixed cab applications)

Pump Module Running Boards

The pump module shall include a running board on each side. The running boards shall be in accordance with NFPA in both step height and stepping surface. The running boards shall be formed from .125" aluminum treadplate.

Stepping Surface

Each running board shall include a multi-directional, aggressive gripping surface incorporated into the treadplate. The surface shall extend vertically from the diamond plate sheet a minimum of .125". Gripping

surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". Each running board shall be bolted on to the pump module and be easily removable for replacement in the case of damage.

Zolatone Pump Panels

The driver and officer side pump panels shall have a black zolatone painted finish.

Pump Access Door

The officer side pump module shall include an upper horizontally-hinged pump access door.

The compartment door shall be securely attached with a full-length stainless steel piano type hinge with 1/4" pins. The hinge shall be "staked" on every other knuckle to prevent the pin from sliding. The door shall include two (2) push-button style latches to secure the door in the closed position and two (2) hold-open devices to hold the door in the open position.

The door shall have a Zolatone painted finish the same color as the pump panels and of the same material.

Pump Panel Tags

Color coded pump panel labels shall be supplied to be in accordance with NFPA 1901 compliance.

Hose Reel Blow-Out Valve

A 1/4" Innovative Controls valve shall be installed between the chassis air system and the hose reel. This valve shall be mounted at the pump operator area. Each 1/4 turn handle grip shall feature built-in color-coding labels and a verbiage tag There shall be a check valve in the air line to prevent water from entering the chassis air system.

Flex Joint

The area between the pump modules and body shall include a rubber flex joint.

Air Horn Switch

A heavy duty weatherproof push-button switch shall be installed at the pump operator`s panel to operate the air horns.

The switch shall be labeled "Evacuation Alert".

Location: driver side pump panel.

Storage Pan

A storage pan shall be provided in the upper pump module area. The pan shall be constructed of 3/16" (.188") aluminum treadplate and be removable to service items in the pump module below. Holes shall be provided in the corners of the pan to facilitate drainage of water.

Triple Crosslay Hosebed

Three (3) crosslay hosebeds shall be provided on the pump module. Each crosslay area shall each have a capacity for up to 200` of 2.0" double-jacket fire hose single stacked. The crosslay floor and side walls shall be constructed of 3/16" (.188) smooth aluminum plate. The floor shall be slotted to prevent the accumulation of water and allow for ventilation of wet hose. Two (2) 1/4" (.25") smooth aluminum plate fixed dividers with a sanded finish shall be provided to separate the three (3) hose storage areas.

1030 Gallon Water Tank

A 1030 gallon (U.S.) "T" booster tank shall be supplied.

The booster tank shall be constructed of polypropylene material. The booster tank shall be completely removable without disturbing or dismounting the apparatus body structure. The top of the booster tank is fitted with removable lifting assembly designed to facilitate tank removal.

The booster tank top, sides, and bottom shall be constructed of a minimum 1/2" (0.50") thick black UV-stabilized copolymer polypropylene. Joints and seams shall be fused using nitrogen gas as required and tested for maximum strength and integrity. The tank construction shall include technology wherein a sealant shall be installed between the plastic components prior to being fusion welded. This sealing method will provide a liquid barrier offering leak protection in the event of a weld compromise. The tank cover shall be constructed of 1/2" thick polypropylene and UV stabilized, to incorporate a multi-piece locking design, which allows for individual removal and inspection if necessary. The tank cover(s) shall be flush or recessed 3/8" from the top of the tank and shall be fused to the tank walls and longitudinal partitions for maximum integrity. Each one of the covers shall have hold downs consisting of 2" minimum polypropylene dowels spaced a maximum of 40" apart. These dowels shall extend through the covers and will assist in keeping the covers rigid under fast filling conditions.

The tank shall have a combination vent and manual fill tower with a hinged lid. The fill tower shall be constructed of 1/2" polypropylene and shall be a typical dimension of 8" x 8" outer perimeter (subject to change for specific design applications). The fill tower shall be blue in color indicating that it is a water-only fill tower. The tower shall have a 1/4" thick removable polypropylene screen and a polypropylene hinged cover. The capacity of the tank shall be engraved on the top of the fill tower lid.

The booster tank shall have two (2) tank plumbing openings. One (1) for a tank-to-pump suction line with an anti-swirl plate, and one (1) for a tank fill line. All tank fill couplings shall be backed with flow deflectors to break up the stream of water entering the tank, and be capable of withstanding sustained fill rates per the tank fill inlet size.

The sump shall be constructed of a minimum of 1/2" polypropylene. The sump shall have a minimum 3" N.P.T. threaded outlet for a drain plug per NFPA. This shall be used as a combination clean-out and drain. All tanks shall have an anti-swirl plate located approximately 3" above the inside floor.

The transverse and longitudinal swash partitions shall be manufactured of a minimum of 3/8" polypropylene. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All swash partitions interlock with one another and are completely fused to each other as well as to the walls of the tank. All partitions and spacing shall comply with NFPA 1901. The walls shall be welded to the floor of the tank providing maximum strength.

Inside the fill tower there shall be a combination vent/overflow pipe. The vent overflow shall be a minimum of schedule 40 polypropylene pipe with an I.D. of 3" or larger that is designed to run through the tank. This outlet shall direct the draining of overflow water past the rear axle, thus reducing the possibility of freeze-up of these components in cold environments. This drain configuration shall also assure that rear axle tire traction shall not be affected when moving forward.

The booster tank shall undergo extensive testing prior to installation in the truck. All water tanks shall be tested and certified as to capacity on a calibrated and certified tilting scale.

Each tank shall be weighed empty and full to provide precise fluid capacity. Each tank shall be delivered with a Certificate of Capacity delineating the weight empty and full and the resultant capacity based on weight. Engineering estimates for capacity calculations shall not be permitted for capacity certification. The tank must be designed and fabricated by a tank manufacturer that is ISO 9001:2008 certified in each of its locations. The ISO certification must be to the current standard in effect at the time of the design and fabrication of the tank.

A tag shall be installed on the apparatus in a convenient location and contain pertinent information including a QR code readable by commercially available smart phones. The information contained on the tag shall include the capacity of the water and foam (s), the maximum fill and pressure rates, the serial number of the tank, the date of manufacture, the tank manufacturer, and contact information. The QR code will allow the user to connect with the tank manufacturer for additional information and assistance.

The tank shall have a limited Lifetime warranty that provides warranty service for the life of the fire apparatus in which the tank is installed. Warranties are transferable if the apparatus ownership changes by requesting the transfer from the tank manufacturer.

Tank capacity is 1030 US gallons / 857 Imperial gallons / 3898 Liters.

Fill Tower Location

Fill tower(s) shall be located offset to driver side of water tank.

Tank Fill

One (1) 2" pump-to-tank fill line having a 2" manually operated full flow valve. The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times. The fill line shall be controlled using a chrome handle with an integral tag.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Additional Water Tank Fill

One (1) 2.5" (63.5 mm) additional water tank fill connection shall be provided at the officer's side rear of the body. The connection shall include an inlet strainer, 2.5" (63.5 mm) FNST chrome inlet swivel and a chrome plug with cable. A 2.5" (63.5 mm) stainless steel pipe and/or high pressure flexible hose will connect to the water tank.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss. One 2.5" valve shall be installed between the fill connection port and the tank to prevent water from flowing out of the tank after filling and disconnecting the hose.

Tank to Pump

The booster tank shall be connected to the intake side of the pump with 3.00" piping and two (2) quarter turn valves. The tank to pump line will run straight (no elbows) from the pump into the front face of the water tank. Rubber couplings shall be included in these lines to prevent damage from vibration or chassis flexing.

Two (2) check valves shall be provided in the tank to pump supply line to prevent the possibility of "back filling" the water tank.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.

Additional Tank to Pump

One (1) additional manually operated 3" Akron valve shall be installed between the pump suction and the booster tank. The piping shall be 4" with flex hose and stainless steel hose clamps connected to the tank. The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times.

Tank to Pump Valve

A single control shall be provided at the operator`s panel to operate both tank to pump valves and shall visually indicate the position of the valve at all times.

Ladder Brand

The ladder brand capable of being carried on the unit shall be Duo-Safety.

Ladders

The length of ladders capable of being stored shall be the following: 24' 2-section and 14' roof ladder.

Hard Suction Storage

Two (2) aluminum storage tray(s) shall be provided on the officer's side and shall be capable of storing 10` hard suction hose(s) (not included).

One (1) aluminum storage tray(s) shall be provided on the driver's side and shall be capable of storing 10` hard suction hose(s) (not included).

Each storage tray shall include two (2) NFPA compliant hose restraints.

Intermediate Pump Panel Step

An intermediate pump panel step shall be provided.

The intermediate step shall be constructed of 3/16" (.187") aluminum tread plate. The step shall include a multi-directional, aggressive gripping surface incorporated into the tread plate. The surface shall extend vertically from the diamond plate sheet a minimum of 1/8" (.125"). Gripping surfaces shall be circular in design, a minimum of 1" diameter and on centers not to exceed 4". The step shall be bolted onto the pump module and be easily removable for replacement in the case of damage.

Lighting shall be provided and positioned to illumination the upper surface of the step.

Intermediate Rear Step

A step over B1 compartment shall be provided.

The step shall be constructed of 3/16" (.187") aluminum treadplate. The step shall include a multi-directional, aggressive gripping surface incorporated into the treadplate.The step shall be bolted above b1 compartment and be easily removable for replacement in the case of damage.

One (1) handrail shall be installed in compliance with current NFPA. The handrails shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.

Hosebed Folding Steps

Dual lighted LED folding steps shall be positioned to the driver side rear of the body. The steps shall be NFPA compliant for access to the hosebed storage area and in step height and surface area. The steps shall be staggered stepped as applicable with tailboard depth, not applicable with recessed step mounting.

Dual lighted LED folding step with LED lights integral to the step on the top to provide NFPA requirements of 2 FC on the stepping surface. Each step shall also have a LED light integral to the bottom of the step to meet NFPA requirements of a stepping surface up to 18" below the step.

The folding step shall sustain a minimum static load of 500 lbs. The folding step shall also meet NFPA slip resistance qualifications.

One (1) hand rail shall be installed (as applicable) in compliance with current NFPA. The hand rail shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.

Additional Hosebed Folding Steps

Dual lighted LED folding steps shall be positioned to the officer side rear of the body. The steps shall be NFPA compliant for access to the hosebed storage area and in step height and surface area. The steps shall be staggered stepped as applicable with tailboard depth, not applicable with recessed step mounting.

Dual lighted LED folding step with LED lights integral to the step on the top to provide NFPA requirements of 2 FC on the stepping surface. Folding step shall also have a LED light integral to the bottom of the step to meet NFPA requirements of a stepping surface up to 18" below the step. The folding step shall sustain a minimum static load of 500 lbs. The folding step shall also meet NFPA slip resistance qualifications.

One (1) hand rail shall be installed (as applicable) in compliance with current NFPA. The hand rail shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.

Pump Panel Folding Steps

Two (2) dual lighted LED folding step(s) shall be located officer side front compartment face, and driver side front compartment face. The folding step(s) shall meet current NFPA in step height and surface area.

Dual lighted LED folding step with LED lights integral to the step on the top to provide NFPA requirements of 2 FC on the stepping surface. Folding step shall also have a LED light integral to the bottom of the step to meet NFPA requirements of a stepping surface up to 18" below the step. The folding step shall sustain a minimum static load of 500 lbs. The folding step shall also meet NFPA slip resistance qualifications.

One (1) hand rail shall be installed in compliance with current NFPA. The hand rail shall be constructed of 6063T5 1.25" OD anodized aluminum tube, with an integral ribbed surface to assure a good grip for personnel safety, mounted between chrome stanchions.

Rear Mudflaps

The rear tires shall have a set of black mudflaps mounted behind the rear chassis wheels with manufacturer logo.

Body Mainframe

The body mainframe shall be entirely constructed of aluminum. The complete framework shall be constructed of 6061T6 and 6063T5 aluminum alloy extrusions welded together using 5356 aluminum alloy welding wire.

The body mainframe shall include 3" x 3" 6061-T6 aluminum 3/8" (0.375") wall crossmember extrusion or 3" x 3" I-beam section aluminum extrusion depending on the application at the front of the body . A solid 3" x 3" "I-beam" section aluminum extrusion shall be provided the full width of the body forward and rearward of the rear wheel well. The crossmembers shall be designed to support the compartment framing and shall be welded to 1-3/16" x 3" (1.188" x 3") solid 6063-T5 aluminum frame sill extrusions. The frame sill extrusions shall be shaped to contour with the chassis frame rails and shall be protected from contact with the chassis frame rails by 5/16" x 2" (0.31" x 2") fiber-reinforced rubber strips to prevent wear and galvanic corrosion caused when dissimilar metals come in contact.

Body Mounting System

The main body shall be attached to the chassis frame rails with six (6) of 5/8" (0.625") diameter steel U-bolts. This body mounting system shall be used to allow easy removal of the body for major repair or disassembly.

Water Tank Mounting System

The body design shall allow the booster tank to be completely removable without disturbing or dismounting the apparatus body structure. The water tank shall rest on top of a 3" x 3" frame assembly covered with rubber shock pads and corner braces formed from 3/16" angled plate to support the tank. The booster tank mounting system shall utilize a floating design to reduce stress from road travel and vibration. To maintain low vehicle center of gravity the water tank bottom shall be mounted within 5" of the frame rail top.

Hosebed Side Assembly

The hosebed side assemblies shall be made of 3" x 3" slotted aluminum extrusion and 3/16" (.188") smooth plate. The hosebed side assemblies shall provide a 85" high body.

The exterior hosebed side surface shall be completely sanded and deburred to assure a smooth finish and painted job color. The interior hosebed side surface shall be completely sanded and deburred to assure a smooth sanded finish.

Hosebed Capacity

The hosebed shall have the capacity to store the following hose from the driver side to the officer side – 1000' 5" LDH, 200' 2.5" DJ, 200' 2.5" DJ hose.

Hosebed

The area above the booster tank shall have a hose storage area provided. The hosebed shall be constructed entirely from maintenance-free, 3/4" deep x 7.5" wide, extruded aluminum slats that shall be pop-riveted into a one-piece grid system. Each slat shall have all sharp edges removed and have an anodized ribbed top surface that shall prevent the accumulation of water and allow for ventilation of wet hose.

The hosebed shall include an open area for the fill tower(s). The hosebed design shall incorporate adjustable tracks in the forward area rearward of the fill tower(s) and the rearward area of the hosebed for the installation of an adjustable divider(s). The adjustable tracks shall hold an adjustable divider(s) mounting nut straight, so only a philips head screwdriver is required to adjust a divider(s) from side to side (as is practical with other hosebed mounted equipment).

The hosebed shall be easily removable to allow access to the booster tank below.

Hosebed Dividers

There shall be three (3) hosebed dividers provided the full fore-aft length of the hosebed.

The hosebed divider shall be constructed of 1/4" (0.25") smooth aluminum plate with an extruded aluminum base welded to the bottom. The rear end of the divider shall have a 3" radius corner to protect personnel. The divider shall be natural finish aluminum for long-lasting appearance and shall be sanded and de-burred to prevent damage to the hose.

The divider shall be adjustable from side to side in the hosebed to accommodate varying hose loads.

Hosebed Divider Hand Hold

There shall be a hand hole cut-out(s) on the trailing edge of each hosebed divider. The cut-out(s) is specifically sized for use in adjusting of the hosebed divider.

Overall Height Restriction

The apparatus overall height shall not exceed 9' 6".

Overall Length Restriction

The apparatus overall length shall not exceed 29' with the exception of the area where the pedestal Q2B is located. That area at the front bumper shall be 29'4".

Floor Matting

This unit shall have all applicable compartment floors, shelves and trays covered with a heavy duty Turtle Tile brand Black floor matting.

Fuel Fill

A recessed fuel fill shall be provided at the driver side rear wheel well area.

Body Wheel Well

The body wheel well frame shall be constructed from 6063-T5 aluminum extrusion with a slot the full length to permit an internal fit of 1/8" (0.125") aluminum treadplate. The wheel well trim fenderett shall be constructed from 6063-T5 formed aluminum extrusion. The wheel well liners shall be constructed of a 3/16" (.187") composite material. The liners shall be bolt-on and shall provide a maintenance-free and damage-resistant surface.

Rubrail

The pump area module(s) and body shall have rubrails mounted along the sides and at the rear.

The rubrail shall be C-channel in design and constructed of 3/16" thick 6463T6 anodized aluminum extrusion. The rubrail shall be 2.75" high x 1.25" deep and shall extend beyond the body width to protect compartment doors and the body side. The rubrail depth shall allow marker and/or warning lights to be recessed inside for protection.

The top surface of the rubrail shall have minimum of five (5) raised serrations. Each serration being a minimum of .1" in height and with cross grooves to provide a slip-resistant edge for the tailboard step and pump module running board areas. The rubrail shall be mounted a minimum of 3/16" off the pump module and body with nylon spacers. The ends of each section shall be provided with a finished rounded corner piece.

Equipment Capacity

Equipment allowance on the apparatus shall be 2000 lbs. This allowance is in addition to the weight of the hoses and ground ladders listed in the shop order as applicable.

SCBA Wheel Well Bottle Storage

The body wheel well area shall store up to seven (7) SCBA bottles- four (4) on the officer side and three (3) on the driver side. The bottles shall be secured in each storage area by a vertical hinged door which shall be secured in the closed position by a push button latch. The doors shall have a brushed stainless steel finish.

Each storage area shall provide individual storage of a bottle and shall not allow forward or rearward movement of the bottle. The bottle(s) shall be removable from the storage area without the bottle(s) coming into contact with any surface area of the wheel well (NO EXCEPTIONS).

SCBA Straps

Straps shall be provided in each exterior storage compartment to provide secondary means to hold each SCBA bottle in the compartment. The straps shall be constructed from 1" nylon webbing formed in a loop. The strap(s) shall be mounted to the storage compartment ceiling directly inside the door opening at each bottle location.

Fire Pump System

The pump shall be a midship-mounted Hale QMAX single stage centrifugal pump. The pump shall be mounted on the chassis frame rails of commercial or custom truck chassis and have the capacity of 1,250 to 2,250 gallons per minute (U.S. GPM) NFPA 1901 rated performance, and shall be split-shaft driven from the truck transmission.

The entire pump body and related parts shall be of fine grain alloy cast iron, with a minimum tensile strength of 30,000 psi (207 MPa). All metal moving parts in contact with water shall be of high quality bronze or stainless steel. Pump body shall be horizontally split in two sections, for easy removal of impeller assembly including wear rings and bearings from beneath the pump without disturbing pump mounting or piping.

The pump impeller shall be hard, fine grain bronze of the mixed flow design and shall be individually ground and hand balanced. Impeller clearance rings shall be bronze, easily renewable without replacing impeller or pump volute body, and of wrap-around double labyrinth design for maximum efficiency.

The pump shaft shall be heat-treated, corrosion-resistant stainless steel and shall be rigidly supported by three (3) bearings for minimum deflection. The sleeve bearing is to be lubricated by a force fed, automatic oil lubricated design, pressure-balanced to exclude foreign material. The remaining bearings shall be heavy-duty, deep groove ball bearings in the gearbox and shall be splash-lubricated. Pump shaft must be sealed with double-lip oil seal to keep road dirt and water out of the gearbox.

Two (2) 6" diameter suction ports with 6" NST male threads and removable screens shall be provided, one each side. The ports shall be mounted one (1) on each side of the midship pump and shall extend through the side pump panels. Inlets shall come equipped with long handle chrome caps.

Discharge Manifold

The pump system shall utilize a stainless steel discharge manifold system that allows a direct flow of water to discharge valves. The manifold and fabricated piping systems shall be constructed of a minimum of Schedule 10 stainless steel to reduce corrosion.

The apparatus manufacturer shall provide a full 10 year stainless steel plumbing components warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer designed foam/water plumbing system stainless steel components for 10 years. A copy of the warranty document shall be provided with the proposal.

Priming System

The electrically-driven priming pump shall be a positive displacement vane type. One (1) priming control, located at the pump operator's position, shall open the priming valve and start the priming motor. The primer shall be oil-less type. The priming valve shall be electronically interlocked to the "Park Brake" circuit to allow priming of the pump before the pump is placed in gear.

Pump Shift

The pump shift shall be pneumatically-controlled using a power shifting cylinder.

The power shift control valve shall be mounted in the cab and be labeled "PUMP SHIFT". The apparatus transmission shift control shall be furnished with a positive lever, preventing accidental shifting of the chassis transmission.

A green indicator light shall be located in the cab and be labeled "PUMP ENGAGED". The light shall not activate until the pump shift has completed its full travel into pump engagement position.

A second green indicator light shall be located in the cab and be labeled "OK TO PUMP". This light shall be energized when both the pump shift has been completed and the chassis automatic transmission has obtained converter lock-up (4th gear lock-up).

Systems

Two (2) test plugs shall be pump panel mounted for third party testing of vacuum and pressures of the pump.

A master drain valve shall be installed and operated from the pump operator`s panel. The master pump drain assembly shall consist of a Class 1 bronze master drain with a rubber disc seal and turning handle.

The manual master drain valve shall have six (6) individually-sealed ports that allow quick and simultaneous draining of multiple intake and discharge lines. It shall be constructed of corrosion-resistant material and be capable of operating at a pressure of up to 600 psi.

The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.

Gearbox Cooler

A gearbox cooler shall be provided to maintain safe operating temperatures during prolonged pumping operations for pump rating 1500 GPM and over.

Auxiliary Engine Cooler

An engine cooler used to lower engine water temperature during prolonged pumping operations and controlled at the pump operator`s panel shall be provided.

The engine cooler shall be installed in the engine coolant system in such a manner as to allow cool pump water to circulate around engine water, thus forming a true heat exchanger action. Cooler inlet and outlet shall be continuous, preventing intermixing of engine coolant and pump water.

Pump Rating

The fire pump shall be rated at 1500 GPM.

Pump Certification

The pump, when dry, shall be capable of taking suction and discharging water in accordance with current NFPA 1901. The pump shall be tested at the manufacturer`s facility by an independent, third-party testing service. The conditions of the pump test shall be as outlined in current NFPA 1901.

The tests shall include, at a minimum, the pump test, the pumping engine overload test, the pressure control system test, the priming device tests, the vacuum test, and the water tank to pump flow test as outlined in current NFPA 1901.

A piping hydrostatic test shall be performed as outlined in current NFPA 1901.

The pump shall deliver the percentage of rated capacities at pressures indicated below:

100% of rated capacity at 150 psi net pump pressure
100% of rated capacity at 165 psi net pump pressure
70% of rated capacity at 200 psi net pump pressure
50% of rated capacity at 250 psi net pump pressure

A test plate, installed at the pump panel, shall provide the rated discharges and pressures together with the speed of the engine as determined by the certification test, and the no-load governed speed of the engine.

A Certificate of Inspection certifying performance of the pump and all related components shall be provided at time of delivery. Additional certification documents shall include, but not limited to, Certificate of Hydrostatic Test, Electrical System Performance Test, Manufacturer`s Record of Pumper Construction, and Certificate of Pump Performance from the pump manufacturer.

Steamers

The pump 6" steamer intake(s) shall be mounted approximately 1" from the pump panel to back of cap when installed. The "Flush+1" dimension can vary + or - 1-1/4" or as practicable depending on the pump module width and options selected. (Example 72" or 76" modules.)

Location: driver's side, officer's side.

Zinc Anodes

The zinc anodes help prevent damage caused by galvanic corrosion within the fire pump. The system provides a sacrificial metal which helps to diminish or prevent pump and pump shaft galvanic corrosion. One anode will be located on the suction side and one will be located on the discharge side of the pump.

Thermal Relief Valve

A Hale TRVL-120 thermal relief valve shall be provided.

The valve shall help protect the pump by automatically monitoring pump water temperature. The relief valve shall automatically dump a controlled amount of water to the ground when the pump water exceeds the pre-set temperature of the relief valve.

A pump panel mounted indicator shall be installed at the pump operator`s panel.

Inlet Valves

A Hale Master Intake Valve (MIV-E) shall be provided for the specified intake. The large diameter inlet valve shall be capable of achieving an NFPA test rating of 1500 GPM through a single 6" suction hose.

The inlet valve shall be operated by a 12 VDC electric motor with a remote switch provided at the pump operator`s position. The 12 VDC motor shall be provided with an automatic resetting, thermally-compensated over-current protection circuit breaker to protect the 12 VDC motor and apparatus electrical system. The gear actuator on the valve will cycle from full closed to full open in not less than three (3) seconds. A hand controlled pump panel mounted manual override (knob style) shall be provided.

An indicator light panel shall be located at the pump operator`s position to show valve open, closed, or traversing from open to closed.

A built-in adjustable pressure relief valve shall be provided. The pressure relief valve shall be factory set to 125 psi. The pressure relief valve shall provide overpressure protection for the suction hose even when the intake valve is closed.

A 3/4" air bleeder valve shall be provided and controlled at the pump operator`s position.

A 1/4" water bleeder shall be supplied and controlled at the pump operator`s position.

Location: driver side pump panel, officer side pump panel.

Pump Seal Packing

The pump shaft shall have only one (1) packing gland located on the inlet side of the pump. It shall be of split design for ease of repacking. The packing gland shall be of a design to exert uniform pressure on packing and to prevent cocking and uneven packing load when tightened. The packing rings shall be permanently lubricated, graphite composition and have sacrificial zinc foil separators to protect the pump shaft from galvanic corrosion.

The packing shall be easily adjusted by hand with rod or screw driver with no special tools or wrenches required.

Master Drain Valve

A manual master drain valve shall be installed on the pump panel. The master pump drain assembly shall consist of a Class 1 bronze master drain with a rubber disc seal. The master drain shall have a rubber seal to prevent water from running out on the running board.

The manual master drain valve shall have twelve (12) individual-sealed ports that allow quick and simultaneous draining of multiple intake and discharge lines. It shall be constructed of corrosion-resistant material and be capable of operating at a pressure of up to 600 PSI.

The master drain shall provide independent ports for low point drainage of the fire pump and auxiliary devices.

Pump Primer

There shall be a Trident Model #31.001.7 air operated priming system shall be installed. The unit shall be of all brass and stainless steel construction and designed for fire pumps of 1,250 GPM (4,600 LPM) or more. Due to corrosion exposure no aluminum or vanes shall be used in the primer design. The primer shall be three-barrel design with ¾" NPT connection to the fire pump.

The primer shall be mounted above the pump impeller so that the priming line will automatically drain back to the pump. The primer shall also automatically drain when the panel control actuator is not in operation. The inlet side of the primer shall include a brass 'wye' type strainer with removable stainless steel fine mesh strainer to prevent entry of debris into the primer body.

Performance, Safety, and NFPA Compliance

The priming system shall be capable to a vertical lift to 22 inches of mercury and shall be fully compliant to applicable NFPA standards for vertical lift. The system shall create vacuum by using air from the chassis air brake system through a three-barrel multi-stage internal "venturi nozzles" within the primer body. The noise level during operation of the primer shall not exceed 75 Db.

Air Flow Requirements

The primer shall require a minimum of 15.6 cubic foot per minute air compressor and shall be capable of meeting drafting requirements at high idle engine speed. The air supply shall be from a chassis supplied 'protected' air storage tank with a pressure protection valve. The air supply line shall have a pressure protection valve set between 70 to 80 PSIG.

Primer Control

The primer control shall have a manually operated, panel mounted "push to prime" air valve; which will direct air pressure from the air brake storage tank to the primer body. To prevent freezing, no water shall flow to and from the panel control.

Power Requirements

To reduce the electrical power requirements on the fire apparatus the priming system shall be air powered. The system shall not require annual tear-down and maintenance, an electric motor or solenoid, electrical wiring, lubrication, belt drive, or clutch assembly.

Warranty

The primer shall be covered by a five (5) year parts warranty.

Pump Cooler

The pump shall have a 3/8" line installed from the pump discharge to the booster tank to allow a small amount of water to circulate through the pump casing in order to cool the pump during sustained periods of pump operation when water is not being discharged. The pump cooler line shall be controlled from the pump operator`s panel by a Innovative Controls 1/4 turn valve with "T" handle. Each 1/4 turn handle grip shall feature built-in color-coding labels and a verbiage tag

Left Intake

One (1) 2-1/2" suction inlet with a manually operated 2-1/2" Akron valve shall be provided on the left side pump panel.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The outlet of the valve shall be connected to the suction side of the pump with the valve body located behind the pump panel. The valve shall come equipped with a brass inlet strainer, 2-1/2" NST female chrome inlet swivel, and shall be equipped with a chrome plated rockerlug plug with a retainer device.

The valve control shall be located at the pump operator`s panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance, and decreased friction loss.

A 3/4" bleeder valve assembly will be installed on the left side pump panel.

Front Bumper Discharge

One (1) 1-1/2" preconnect outlet with a manually operated Akron valve shall be supplied to the extended front bumper. The preconnect shall consist of a 2" heavy duty hose coming from the pump discharge manifold to a 2" FNPT x 1-1/2" MNST mechanical swivel hose connection to permit the use of the hose from either side of the apparatus.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

An air blow-out valve shall be installed between the chassis air reservoir and the front jump line. The control shall be installed on the pump operator`s panel.

The discharge shall be supplied with a Class 1 automatic 3/4" drain valve assembly. The automatic drain shall have an all-brass body with stainless steel check assembly. The drain shall normally be open and automatically close when the pressure is greater than 6 psi.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Front Jump Line Swivel

There shall be a polished stainless steel swivel elbow provided for the front bumper discharge located on top of the bumper officer's side of center tray.

Single Crosslays

Three (3) single crosslay discharges shall be provided at the front area of the body. The crosslay shall include one (1) 2" brass swivel with a 1-1/2" hose connection to permit the use of hose from either side of the apparatus.

Each crosslay hosebed shall consist of a 2" heavy-duty hose coming from the pump discharge manifold to the 2" swivel. The hose shall be connected to a manually operated 2" Akron valve. The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator`s panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: crosslay 1, 2, and 3.

Additional Crosslay Capacity

One (1) crosslay shall accommodate 300' of 1.75" double jacket hose.

2.5" Left Panel Discharges

Two (2) 2-1/2" discharge outlet with manually operated Akron valves shall be provided at the left hand side pump panel.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position and water is flowing through it.

The valve shall be of the unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

The discharge shall extend out beyond the pump panel with a 30 degree downward angle with 2-1/2" NST threads to help prevent kinking of the discharge hose. The 30 degree chrome droop shall be an integral part of the discharge valve and shall be equipped with a chrome plated rockerlug cap with a retainer chain.

The discharge shall be supplied with a 3/4" bleeder valve assembly. The bleeder valve shall be installed to drain water from the gauge pressure line to prevent freezing of the line. The drain shall be controlled with a quarter-turn valve on the pump panel.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: left side discharge 1, left side discharge 2.

2.5" Right Panel Discharge

One (1) 2-1/2" discharge outlet with a manually operated Akron valve shall be provided at the right side pump panel.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

The discharge shall extend out beyond the pump panel with a 30 degree downward angle with chrome plated 2-1/2" NST threads to help prevent kinking of the discharge hose. The 30 degree chrome droop shall be an integral part of the discharge valve and shall be equipped with a chrome plated rockerlug cap with a retainer chain.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

4" Right Panel Discharge

One (1) 4" discharge outlet with a 4" electrically-operated Akron valve shall be provided at the side pump panel. The discharge shall consist of a 4" valve connected to a 4" MNST adapter. The adapter shall protrude through the pump panel. The end of the discharge adapter shall be equipped with a chrome-plated, rocker-lug cap with a retainer chain.

The valve shall be an Akron 8600HD series with 316 stainless ball and polymer seals for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the chrome-plated brass ball when in a throttle position with water flowing through it. The valve shall be of the unique Akron Swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve shall utilize an electric driven worm gear actuator with a Navigator 9323 controller. The 9323 controller shall be located at the pump operator's panel and contain indicator lights for open, closed and throttled valve positions. The valve may also be operated manually in case of electrical system failure.

Location: right side discharge 1

Deck Gun Discharge

One (1) 3" deck gun discharge outlet with a manually operated Akron valve and 3" stainless steel pipe shall be provided above the pump compartment.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve shall be equipped with a device that limits the opening and closing speeds to comply with the current edition of NFPA 1901.

The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Deck Gun Location

Deck gun piping shall be positioned centered in deck gun channel. This location shall allow for optimal operation of a deck gun monitor once installed.

2.5" Right Front Hosebed Preconnect

One (1) 2-1/2" preconnect outlet with a manually operated Akron valve shall be supplied to the lower right of the apparatus hosebed. The preconnect shall consist of a 2-1/2" heavy-duty hose coming from the pump discharge manifold to a 2-1/2" adapter.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Second 2.5" Right Front Hosebed Preconnect

One (1) 2-1/2" preconnect outlet with a manually-operated Akron valve shall be supplied to the lower right of the apparatus hosebed. The second preconnect shall consist of a 2-1/2" heavy-duty hose coming from the pump discharge manifold to a 2-1/2" adapter.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator's panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: right side discharge 2.

2.5" Right Rear Discharge

One (1) 2-1/2" discharge outlet with a manually operated Akron valve shall be supplied to the right rear of the apparatus by a 2-1/2" stainless steel pipe.

The valve shall be an Akron 8800HD series with a 316 stainless steel ball and dual polymer seats for ease of operation and increased abrasion resistance. The valve shall have a self-locking ball feature using an automatic friction lock design to balance the stainless steel ball when in a throttle position with water flowing through it.

The valve shall be of the unique Akron swing-out design to allow the valve body to be removed for servicing without disassembling the plumbing.

The valve control shall be located at the pump operator panel and shall visually indicate the position of the valve at all times.

All fabricated piping shall be a minimum of Schedule 10 stainless steel for superior corrosion resistance and decreased friction loss.

Location: right rear discharge.

Booster Hose Reel

A Hannay booster reel shall be provided and located in the rear body compartment.

The booster reel shall be constructed utilizing an all aluminum welded base. Reel bushings shall be manufactured from Nylatron to ensure maintenance-free operation. A 12 volt electrical motor shall be provided and will rewind the reel with a chain and sprocket drive mechanism. All electrical switch connections shall be coated to protect against moisture. The booster reel shall have a capacity for up to 200` of 1" booster hose. A foot-operated fully shielded rewind switch shall be provided under the body to assist with rewinding the deployed hose.

Plumbing to the reel shall be a 1-1/2" flexible line with the discharge control located at the operator`s control panel.

All fabricated piping shall be constructed of a minimum of Schedule 10 stainless steel pipe to reduce corrosion of the lines.

IC Push/Pull Controls

The apparatus pump panel shall be equipped with Innovative Controls Side Mount Valve Controls. The ergonomically designed ¼ turn push-pull T-handle shall be chrome-plated zinc with recessed labels for color-coding and verbiage. An anodized aluminum control rod and housing shall, together with a stainless spring steel locking mechanism, eliminate valve drift. Teflon impregnated bronze bushings in both ends of the rod housing shall minimize rod deflection, never need lubrication, and ensure consistent long-term operation. The control assembly shall include a decorative chrome-plated zinc panel-mounting bezel with areas for color-coding and/or FOAM and CAFS identification labels.

Bleeder Drain Valves

The bleeder/drain valves shall be Innovative Controls ¾" ball brass drain valves with chrome-plated lift lever handles and ergonomic grips. Each lift handle grip shall feature built-in color-coding labels and a verbiage tag identifying each valve, also supplied by Innovative Controls. The color labels shall also include valve open and close verbiage.

Discharge/Intake Bezel

Innovative Controls intake and/or discharge swing handle bezels shall be installed to the apparatus with mounting bolts. These bezel assemblies will be used to identify intake and/or discharge ports with color and verbiage. These bezel are designed and manufactured to withstand the specified apparatus service environment and shall be backed by a warranty equal to that of the exterior paint and finish. The specified assemblies feature a chrome-plated panel-mount bezel with durable UV resistant polycarbonate inserts. These UV resistant polycarbonate graphic inserts shall be sub-surface screen printed to eliminate the possibility of wear and protect the inks from fading. All insert labels shall be backed with 3M permanent adhesive (200MP), which meets UL969 and NFPA standards.

Pressure Governor FRC In-Control

Fire Research In-Control series TGA300-A00 pressure governor and monitoring display kit shall be installed. The kit shall include a control module, intake pressure sensor, discharge pressure sensor, and cables. The control module case shall be waterproof and have dimensions not to exceed 5-1/2" high by 10-1/2" wide by 2" deep. Inputs for monitored information shall be from a J1939 databus or independent sensors. Outputs for engine control shall be on the J1939 databus or engine specific wiring.

The following continuous displays shall be provided:
Pump discharge; shown with four daylight bright LED digits more than 1/2" high
Pump intake; shown with four daylight bright LED digits more than 1/2" high
Pressure / RPM setting; shown on a dot matrix message display
Pressure and RPM operating mode LEDs
Throttle ready LED
Engine RPM; shown with four daylight bright LED digits more than 1/2" high
Check engine and stop engine warning LEDs
Oil pressure; shown on a dual color (green/red) LED bar graph display
Engine coolant temperature; shown on a dual color (green/red) LED bar graph display
Transmission temperature: shown on a dual color (green/red) LED bar graph display
Battery voltage; shown on a dual color (green/red) LED bar graph display.
The dot-matrix message display shall show diagnostic and warning messages as they occur. It shall show monitored apparatus information, stored data, and program options when selected by the operator. All LED intensity shall be automatically adjusted for day and night time operation.

The program shall store the accumulated operating hours for the pump and engine to be displayed with the push of a button. It shall monitor inputs and support audible and visual warning alarms for the following conditions:
High Battery Voltage
Low Battery Voltage (Engine Off)
Low Battery Voltage (Engine Running)
High Transmission Temperature
Low Engine Oil Pressure
High Engine Coolant Temperature
Out of Water (visual alarm only)
No Engine Response (visual alarm only).
The program features shall be accessed via push buttons located on the front of the control panel. There shall be an USB port located at the rear of the control module to upload future firmware enhancements.

Inputs to the control panel from the pump discharge and intake pressure sensors shall be electrical. The discharge pressure display shall show pressures from 0 to 600 psi. The intake pressure display shall show pressures from -30 in. Hg to 600 psi.

The governor shall operate in two control modes, pressure and RPM. No discharge pressure or engine RPM variation shall occur when switching between modes. A throttle ready LED shall light when the interlock signal is recognized. The governor shall start in pressure mode and set the engine RPM to idle. In pressure mode the governor shall automatically regulate the discharge pressure at the level set by the operator. In RPM mode the governor shall maintain the engine RPM at the level set by the operator except in the event of a discharge pressure increase. The governor shall limit a discharge pressure increase in RPM mode to a maximum of 30 psi. Other safety features shall include recognition of no water conditions with an automatic programmed response and a push button to return the engine to idle.

The pressure governor, monitoring and master pressure display shall be programmed to interface with a specific engine.

Location of the governor and monitoring display shall be: Pump operator`s panel.

FRC Tank Level Water with Whelen TIR3 Tank Light

One (1) FRC brand water tank level gauge shall be located at the pump operator`s panel to provide a high-visibility display of the water tank water level. High-intensity light emitting diodes (LED`s) on the display module shall have a 3 dimensional lens allowing the full, 3/4, 1/2, 1/4, and refill levels to be easily distinguished at a glance full 180 degree visibility.

The display module shall be protected from vibration and contamination with the components being encased in an encapsulated plastic housing. The long life and extreme durability of LED indicators eliminates light bulb replacement and maintenance. Color-coded cover plates shall complete the assembly of the display module to the pump panel. System calibration shall be accomplished via supplied magnet . Each display level can be set independently for maximum reliability.

The display shall provide a steady indication of fluid level despite sloshing inside of the tank when the vehicle is in motion due to an "anti-slosh" feature.

In addition to the pump panel mounted lights there shall be (1) Whelen TIR3 series L.E.D (Light Emitting Diode) light heads installed each side of cab as specified.

The system shall be controlled by an FRC tank level driver module that is integral of the NFPA required Pump Panel mounted tank level light assembly.

The additional tank level system shall be interlocked through the parking brake assembly so as not to be on while the vehicle is in motion.

The remote light heads shall be arranged as follows.

Full - green
3/4 - blue
1/2 - amber
1/4 - red

Discharge Pressure Gauges

A Class 1 weatherproof 2-1/2" compound vacuum pressure gauge with a range of 30-0-400 shall be installed on the pump panel. The gauge shall be filled with a liquid solution to assure visual reading to within 1% accuracy.

Gauge shall be provided for the following discharge(s): front bumper discharge, right rear discharge, (3) 1.5 in. crosslay preconnects, deck gun, officer's side hose bed preconnect, left side discharge 1, left side discharge 2, right side discharge 1, right side discharge 2, second officer side hose bed preconnect.

Multiplex Electrical System

Electrical System

The apparatus shall incorporate a Weldon V-MUX multiplex 12 volt electrical system. The system shall have the capability of delivering multiple signals via a CAN bus. The electrical system installed by the apparatus

manufacturer shall conform to current SAE standards, the latest FMVSS standards, and the requirements of the applicable NFPA 1901 standards.

The electrical system shall be pre-wired for optional computer modem accessibility to allow service personnel to easily plug in a modem to allow remote diagnostics.

The electrical circuits shall be provided with low voltage over-current protective devices. Such devices shall be accessible and located in required terminal connection locations or weather-resistant enclosures. The over-current protection shall be suitable for electrical equipment and shall be automatic reset type and meet SAE standards. All electrical equipment, switches, relays, terminals, and connectors shall have a direct current rating of 125 percent of maximum current for which the circuit is protected. The system shall have electro-magnetic interference suppression provided as required in applicable SAE standards.

Any electrical junction or terminal boxes shall be weather-resistant and located away from water spray conditions.

Multiplex System

For superior system integrity, the networked multiplex system shall meet the following minimum component requirements:

• The network system must be Peer to Peer technology based on RS485 protocol. No one module shall hold the programming for other modules. One or two modules on a network referred to as Peer to Peer, while the rest of the network consists of a one master and several slaves is not considered Peer to Peer for this application.
• Modules shall be IP67 rated to handle the extreme operating environment found in the fire service industry.
• All modules shall be solid state circuitry utilizing MOS-FET technology and utilize Deutsch series input/output connectors.
• Each module that controls a device shall hold its own configuration program.
• Each module should be able to function as a standalone module. No "add-on" module will be acceptable to achieve this form of operation.
• Load shedding power management (8 levels).
• Switch input capability for chassis functions.
• Responsible for lighting device activation.
• Self-contained diagnostic indicators.
• Wire harness needed to interface electrical devices with multiplex modules.
• The grounds from each device should return to main ground trunk in each sub harness by the use of ultrasonic splices.

Wiring

All harnessing, wiring and connectors shall be manufactured to the following standards/guidelines. No exceptions.

• NFPA 1901-Standard for Automotive Fire Apparatus
• SAE J1127 and J1127
• IPC/WHMA-A-620 – Requirements and Acceptance for Cable and Wire Harness Assemblies. (Class 3 – High Performance Electronic Products)

All wiring shall be copper or copper alloys of a gauge rated to carry 125 of the maximum current for which the circuit is protected. Insulated wire and cable 8 gauge and smaller shall be SXL, GXL, or TXL per SAE J1128. Conductors 6 gauge and larger shall be SXL or SGT per SAE J1127.

All wiring shall be colored coded and imprinted with the circuits function. Minimum height of imprinted characters shall not be less than .082" plus or minus .01". The imprinted characters shall repeat at a distance not greater than 3".

A coil of wire shall be provided behind electrical appliances to allow them to be pulled away from mounting area for inspection and service work.

Wiring Protection

The overall covering of the conductors shall be loom or braid.

Braid style wiring covers shall be constructed using a woven PVC-coated nylon multifilament braiding yarn. The yarn shall have a diameter of no less than .04" and a tensile strength of 22 lbs. The yarn shall have a service temperature rating of -65 F to 194 F. The braid shall consist of 24 strands of yarn with 21 black and 3 yellow. The yellow shall be oriented the same and be next to each other.

Wiring loom shall be flame retardant black nylon. The loom shall have a service temperature of -40 F to 300 F and be secured to the wire bundle with adhesive-backed vinyl tape.

Wiring Connectors

All connectors shall be Deutsch series unless a different series of connector is needed to mate to a supplier's component. The connectors and terminals shall be assembled per the connector/terminal manufacturer's specification. Crimble/Solderless terminals shall be acceptable. Heat shrink style shall be utilized unless used within the confines of the cab.

NFPA Required Testing of Electrical System

The apparatus shall be electrical tested upon completion of the vehicle and prior to delivery. The electrical testing, certifications, and test results shall be submitted with delivery documentation per requirements of NFPA 1901. The following minimum testing shall be completed by the apparatus manufacturer:

1. Reserve capacity test:

The engine shall be started and kept running until the engine and engine compartment temperatures are stabilized at normal operating temperatures and the battery system is fully charged. The engine shall be shut off and the minimum continuous electrical load shall be activated for ten (10) minutes. All electrical loads

shall be turned off prior to attempting to restart the engine. The battery system shall then be capable of restarting the engine. Failure to restart the engine shall be considered a test fail.

2. Alternator performance test at idle:

The minimum continuous electrical load shall be activated with the engine running at idle speed. The engine temperature shall be stabilized at normal operating temperature. The battery system shall be tested to detect the presence of battery discharge current. The detection of battery discharge current shall be considered a test failure.

3. Alternator performance test at full load:

The total continuous electrical load shall be activated with the engine running up to the engine manufacturer's governed speed. The test duration shall be a minimum of two (2) hours. Activation of the load management system shall be permitted during this test. However, an alarm sounded by excessive battery discharge, as detected by the system required in NFPA 1901 Standard, or a system voltage of less than 11.7 volts DC for a 12 volt nominal system, for more than 120 seconds, shall be considered a test failure.

4. Low voltage alarm test:

Following the completion of the above tests, the engine shall be shut off. The total continuous electrical load shall be activated and shall continue to be applied until the excessive battery discharge alarm activates. The battery voltage shall be measured at the battery terminals. With the load still applied, a reading of less than 11.7 volts DC for a 12 volt nominal system shall be considered a test failure. The battery system shall then be able to restart the engine. Failure to restart the engine shall be considered a test failure.

NFPA Required Documentation

The following documentation shall be provided on delivery of the apparatus:

A. Documentation of the electrical system performance tests required above.

B. A written load analysis, including:

a. The nameplate rating of the alternator.
b. The alternator rating under the conditions.
c. Each specified component load.
d. Individual intermittent loads.

Vehicle Data Recorder

A vehicle data recorder system shall be provided to comply with NFPA 1901, 2009 edition. The following data shall be monitored:

- Vehicle speed MPH
- Acceleration (from speedometer) MPH/Sec.
- Deceleration (from speedometer) MPH/Sec.
- Engine speed RPM

- Engine throttle position % of full throttle
- ABS Event On/Off
- Seat occupied status Occupied Yes/No by position
- Seat belt status Buckled Yes/No by position
- Master Optical Warning Device Switch On/Off
- Time: 24 hour time
- Date: Year/Month/Day

Occupant Detection System

There shall be a visual and audible warning system installed in the cab that indicates the occupant buckle status of all cab seating positions that are designed to be occupied during vehicle movement.

The audible warning shall activate when the vehicle's park brake is released and a seat position is not in a valid state. A valid state is defined as a seat that is unoccupied and the seat belt is unbuckled, or one that has the seat belt buckled after the seat has been occupied.

The visual warning shall consist of a graphical representation of each cab seat in the multiplex display screen that will continuously indicate the validity of each seat position.

The system shall include a seat sensor and safety belt latch switch for each cab seating position, audible alarm and braided wiring harness.

Multiplex Display

The V-MUX multiplex electrical system shall include a Vista IV color display.

The display shall have the following features:

- Aspect ratio of 16:9 (Wide Screen)
- Diagonal measurement of no less than 7"
- Master warning switch
- Engine high idle switch
- Five (5) tactile switches to access secondary menus
- Eight (8) multi-function programmable tactile switches
- Specific door ajar indication
- Real time clock
- Provides access to the multiplex system diagnostics
- Video capability for optional back-up camera(s) and GPS display

The display shall be located driver's side engine cover.

Light Bar

A Whelen Freedom IV Series 72" LED light bar model F4X7 with ten (10) LED modules shall be provided; two (2) front corner mounted LED modules, ten (6) forward facing LED modules and two (2) rear corner LED modules.

No rear facing LEDs.

The light bars shall have clear lenses.

The white LEDs (if equipped) shall be switched off in blocking right of way mode.

The light bar shall be installed centered on the front cab roof.

Opticom Traffic Emitter

A GTT (Global Traffic Technology) model 795H LED Opticom shall be provided centered in the forward facing Whelen Freedom IV light bar.

A switch shall be provided accessible to the driver to activate the emitter. The emitter switch shall be wired through master warning switch and/or the application of the park brake.

Light Bar Mount

One (1) pair of Whelen 1.5" tall (model MKEZ7) mounts shall be provided on the front light bar.

Light Bar Color(s)

Light Bar shall be provided with the following color LED modules: Red with clear lenses

Light Bar LED Filters

The Whelen Freedom IV light bar shall be provided with filters for all colored LEDs'. The filters shall cover each individual LED module.

Lower Level Warning Light Package

Four (4) Whelen M6 Super LED red light heads, four (4) M6V2R combination 180 degree LED warning/scene light heads and two (2) Whelen MCRNSR Super LED red light heads shall be provided.

The lights shall include chrome flanges where applicable. The lights shall be wired with weatherproof connectors and shall be mounted as close to the corner points of the apparatus as is practical as follows:

- Two (2) Whelen M6 Super LED Red lights on the front of the apparatus facing forward
- Two (2) Whelen M6 Super LED Red lights on the rear of the apparatus facing rearward
- Two (2) lights each side of the apparatus, one (1) Whelen M6V2R Super LED Red each side at the forward most point (as practical), and one (1) Whelen MCRNSR Super LED Red each side at the rearward most point (as practical).
- One (1) Whelen M6V2R Super LED Red light each side of the apparatus centrally located to provide mid ship warning light.

The side facing lights shall be located at forward most position, centered in rear wheel well, and side facing at rear of body in rubrail if equipped.

All warning devices shall be surface mounted in compliance with NFPA standards.

Side Cab Warning Lights

Two (2) Whelen M6V2 series Linear Super LED red light heads with red lens shall be provided. The rectangular lights shall include chrome flanges where applicable. Ground lights shall be wired through ground light switch in cab.

Location: (1) each side of cab centered over wheel well.

Additional Programming

Additional programming shall be provided. Additional programming shall be: side facing V series scene lights wired through turn signals and ground light circuit.

Additional Lower Level Warning Lights

Two (2) Whelen Micron model MCRNSCR red Super LED light heads with clear lens shall be provided. The lights shall include chrome flanges where applicable.

Location: (1) each side in pump module rubrail.

Hazard (Door Ajar) Light

There shall be a 2" red LED hazard light installed as specified.

The light shall be located center overhead.

Upper Rear Warning Lights

Whelen model Bb3M7 LED beacons shall be supplied on polished aluminum mounts. Each unit shall consist of a RotaBeam LED upper beacon with red dome and a M7 series Super LED with amber lens on officer side, and amber dome and a M7 series Super LED with red lens on driver side.

The lights shall be located (1) each side of body on rearward compartment top to meet upper Zone C requirements.

Electronic Siren

A Whelen 295HFSM1 electronic siren shall be installed in the cab. The siren amplifier and control panel module shall include a rotary selector for six (6) functions, on/off switch, push button switch for manual siren or air horn tones, and noise canceling microphone. Siren shall feature a mechanical siren tone in place of the piercer tone.

Electronic Siren Control Location

The electronic siren control shall be located in the center overhead.

Mechanical Siren

A chrome plated and pedestal mounted Federal Q2B-P coaster siren shall be installed on top of the front bumper extension. An electric siren brake switch shall be located in the cab accessible to the driver.

The siren shall be located driver side front bumper.

Siren Speaker

One (1) Federal Signal model ES100 Dynamax 100 watt speaker shall be flush mounted as far forward and as low as possible on the front of the vehicle. A polished model MSFMT shall be provided on the outside of the speaker to prevent road debris from entering the speaker.

Speaker dimensions shall be: 5.5 in. high x 5.9 in. wide x 2.5 in. deep. Weight = 5.5 lbs.

The speaker shall produce a minimum sound output of 120 dB at 10 feet to meet current NFPA 1901 requirements.

The speaker shall be located officer side front bumper.

Back-Up Camera

There shall be a Safety Vision camera model number SV-625B-KIT provided. The camera shall be mounted up high at the rear of the vehicle to provide a wide angle rear view with audio. The camera shall include a cable with metallic waterproof threaded o-ring seal connectors to ensure positive connection between video cable and camera to prevent unplugging due to vibration resulting in video loss to vehicle operator. The camera shall be interlocked with the chassis transmission. When the apparatus is placed in reverse the camera shall automatically be activated and when the transmission is placed in any other gear the screen shall return to the previously displayed screen.

License Plate Light

One (1) Truck-Lite model 15905 white LED license plate light mounted in a Truck-Lite model 15732 chrome plated plastic license plate housing shall be mounted at the rear of the body.

LED Marker Lights

LED clearance/marker lights shall be installed as specified.

Upper Cab:
• Five (5) amber LED clearance lights on the cab roof.

Lower Cab:
• One (1) amber LED side turn/marker each side of cab ahead of the front door hinge.

Upper Body:
• One (1) red Trucklite LED clearance light each side, rear of body to the side.

Lower Body:

• Three (3) red Trucklite LED clearance lights centered at rear, recessed in the rubrail.
• One (1) red Trucklite LED clearance light each side at the trailing edge of the apparatus body, recessed in the rubrail.
• One (1) amber Trucklite LED clearance/auxiliary turn light each side front of body/module, recessed in the rubrail.

Tail Lights

Three (3) Whelen model M6 series LED (Light Emitting Diode) lights shall be installed in a four (4) light vertical housing each side at rear and wired with weatherproof connectors.

Light functions shall be as follows:

• LED red running light with red brake light in upper position.
• LED amber populated arrow pattern turn signal in middle position.
• LED clear back-up light in lower position.

A one-piece chrome plastic housing shall be mounted around the three (3) individual lights in a vertical position. The lower space will be used by the M6 or equivalent lower NFPA warning light.

Third Brake Light

One (1) Whelen model PSR00XRR LED red 3rd brake light shall be provided. The light shall be located center rear upper body.

Compartment Light Package

There shall be a minimum of one (1) 4" circular LED (Light Emitting Diode) mounted in each body compartment greater than 4 cu. ft. Compartments over 36" in height shall have a minimum of two (2) lights, one (1) high and one (1) low. Transverse compartments shall have a minimum of two (2) lights located one each side.

Compartment lights shall be wired to a master on/off rocker switch on the cab switch panel. Each light shall be in a resilient shock-absorbent mount for improved bulb life.

The wiring connection for the compartment lights shall be made with a weather-resistant plug in style connector. A single water and corrosion-resistant switch with a polycarbonate actuator and sealed contacts shall control each compartment light. The switch shall allow the light to illuminate if the compartment door is open.

Ground Lights

The apparatus shall be equipped with a sufficient quantity of lights to properly illuminate the ground areas around the apparatus in accordance with current NFPA requirements. The lights shall be 4" circular LED (Light Emitting Diode) with clear lenses mounted in a resilient shock absorbent mount for improved bulb life. The wiring connections shall be made with a weather resistant plug in style connector.

Ground area lights shall be switched from the cab dash with the work light switch.

One (1) ground light shall be supplied under each side of the front bumper extension if equipped.

Lights in areas under the driver and crew area exits shall be activated automatically when the exit doors are opened.

Deck Lights

Two (2) Whelen round 12 Super LED model PFBP12C floodlights with black housing and chrome rear covers shall be installed at the rear of the apparatus. The rear deck lights shall be switched with the work light switch in the cab.

Location: rear body/beavertail area on the trailing edge up high.

Rear Scene Lights

Two (2) Whelen model M6ZC series Linear Super LED clear scene lights shall be provided.

Each shall have Linear Super LED diodes with internal light deflecting optics. The internal light deflecting optics shall redirect the light without the use of angle brackets.

The lights shall be located (1) each side rear compartment face up high, (1) each side of cab, rearward of forward doors, up high and be controlled by a switch in cab accessible to driver (lights on sides of apparatus to be switched separately).

Deck/Scene Light Wired to Back-Up Lights

The rear deck or scene lights shall be activated when the chassis is placed in reverse to provide additional lighting, in addition to the back-up lights, when backing the vehicle.

Forward Facing Cab Brow Lights

A FireTech 12 volt 72" Hi-Viz model FT-B-72-ML-W with (59) LED lights and (5) integrated amber marker lights. The light shall have 19,958 effective lumens.

The light shall be switched from the cab.

Side Cab Brow Lights

A FireTech 12 volt 31" Hi-Viz model FT-MB-24-FT-W with (24) LED lights shall be mounted each side of cab above rear cab doors. Each light shall have 8,880 effective lumens.

Each light shall be switched from the cab.

Crosslay Light

A Whelen LED light model PFBP12C shall be installed at the rear area of the crosslay to provide crosslay lighting per current NFPA 1901. The crosslay light shall be switched with work light switch in the cab.

Light Hosebed

One (1) ROM V4 LED light strip shall be provided with a length of 42-72" in 6" increments depending on the hosebed configuration.

Each light bar shall include eight (8) super bright white LED per 6" of length mounted to circuit boards that have acrylic conformal coating for corrosion protection. The light shall be waterproof up to 1 meter (3.3 feet).

The light shall be wired to the work light switch in the cab.

Location: forward area of hosebed up high.

Engine Compartment Light

There shall be lighting provided in compliance with NFPA to illuminate the engine compartment area.

Light Wiring

Forward pump panel light at the pump operator`s panel shall be wired to the pump shift to provide pump panel illumination when the pump is placed into gear. Top mount application center light at the pump operator`s panel shall be wired to the pump shift to provide pump panel illumination when the pump is placed into gear.

Pump Compartment LED Light

An LED light shall be provided in the pump compartment area for NFPA compliance. The light shall be wired to operate with the work light switch in the cab.

LED Pump Panel Light Package

Three (3) Weldon model 2631-0000-30 LED lights shall be mounted under a light shield directly above each side pump panel. The work light switch in the cab shall activate the lights when the park brake is set.

Additional Pump Panel Light

An additional amber LED light shall be located on the pump panel that will illuminate when the "pump is in gear".

Q2B Foot Switches

A heavy duty metal floor mounted foot switch shall be installed to operate the Q2B siren. It shall be located driver's side, officer's side.

Back-Up Alarm

An electronic back-up alarm shall be supplied. The 97 dB alarm shall be wired into the chassis back-up lights to signal when the vehicle is in reverse gear.

12 Volt DC Power Distribution Module

There shall be a 12 place 12 volt DC power distribution module installed as specified.

The module will have six (6) circuits wired directly to the battery and have six (6) circuits wired through the master battery switch with 12 positions for grounds. Connection to the power module circuit will be through a .250 female spade connector. Each buss will be protected with a 50 amp circuit breaker for overload protection. The module will accept ATC blade type fuses or 22X series circuit breakers.

The module shall be located behind officer's seat.

Hydraulic Generator

A Smart Power Model HR-6 top mount style 6200 watt hydraulic generator shall be provided. The generator shall be installed dunnage pan offset to driver side.

The unit shall come equipped with: modular generator unit (which includes the hydraulic motor and filter, generator, and cooler), axial piston hydraulic pump, hydraulic reservoir, and a gauge panel.

The gauge panel shall display voltage, hour meter, frequency, and amperage.

The hydraulic motor, generator, blower, cooler, and necessary hydraulic components shall be mounted in a rugged steel case.

The modular generator unit shall be 32" long x 13.50" wide x 17.00" high and weigh approximately 190 pounds.

The hydraulic pump shall be driven by a chassis transmission mounted power take off (PTO).

A generator control / PTO engage switch shall be mounted on the cab instrument panel to engage the PTO and start the generator.

Ratings and Capacity

Rating:	6200 watts continuous
	7500 watts peak
Volts:	120/240 volts
Phase:	Single, 4 wire
Frequency:	60 Hz
Amperage:	46 amps @ 120 volts or 23 amps @ 240 volts
Engine speed at engagement:	Recommend below 1000 RPM
Operation range:	880 to 3120 RPM

Testing

The generator shall be tested in accordance with current NFPA 1901 standards.

Notes:
*All ratings and capacities shall be derived utilizing current NFPA 1901 test parameters.
*Extreme ambient temperatures could affect generator performance.

3rd Party Generator Testing

The generator shall be tested at the manufacturer`s facility by an independent, third-party testing service. The conditions and testing of the generator shall be as outlined in current NFPA 1901.

The test shall include operating the generator for two hours at 100% of the rated load. Power source voltage, amps, frequency shall be monitored. The prime mover`s oil pressure, water temperature, transmission temperature (if applicable) and power source hydraulic fluid temperature (if applicable) shall be monitored during testing.

The results of the test shall be recorded and provided with delivery documentation.

Circuit Breaker Panel

An eight (8) place breaker box with up to six (6) appropriately sized ground-fault interrupter circuit breakers shall be supplied. The breaker box will include a master breaker sized according to the generator output which will occupy two (2) places. The breaker box will be located in the specified compartment, not to exceed 12` run of wire.

Dimensions: 12.50" high x 8.88" wide x 3.80" deep.

Location: L1 back wall above offset forward area.

Light Tower

One (1) Will-Burt Night Scan Chief model NS2.3-600LED Whelen extendible lighting system shall be installed rear cab roof mounted side to side and hinged to driver. The lighting is provided by a Will-Burt 12-volt DC RPC directional lighting system with rotation and tilt quartz halogen lamps to provide total coverage. The tower pneumatically extends vertically up to 7.5 feet. The remote control unit allows you to operate all Night Scan functions and accurately aim for complete directional positioning. In addition, AutoStow, a one button command, automatically retracts, turns out the lights and stows the entire system to the compact horizontal transporting position.

• The operational envelope of the light mast shall be automatically illuminated whenever the mast is being raised, lowered with the required NFPA lookup light.

• The lighting system shall include four (4) 150 watt 12 volt Whelen Pioneers series PFP2 LED light fixtures with an output of 14,000 usable lumens each.

• One button adjustable AutoStow provides error-free convenience to retract and stow system and shut off the lights automatically when being stowed.

• Heavy-duty aluminum and stainless steel weatherproof construction provides long life for components exposed to water and weather.

• A handheld pistol grip remote control on a 25 ft cord controls the aiming of lights. The up/down switch and AutoStow switch, which allows for quick and accurate pointing of lights and raising of light tower and automatically shuts off the lights when being stowed. The control shall be located next to the breaker box if equipped or the forward wall of L1 if unit has no breaker box.

• Full 360 degrees of lighting coverage provides complete lighting coverage of emergency or work scene.

The overall size of nested light tower shall be approximately 40-1/4" wide x 53-1/2" long x 9-1/2" high.

The light tower shall have a protective shield around the front and sides.

Cab Receptacles

Two (2) 20 amp/110 volt 3-prong straight blade NEMA 5-20 duplex household receptacles with stainless steel cover plates shall be installed in a non-weather exposed area as specified by the department. The receptacle shall be wired to the inlet receptacle where it will have overcurrent protection from an external source.

Location: In cab driver side on 3 x 3 post rear facing just above engine cover, In cab officer side on 3 x 3 post rear facing just above engine cover.

Electric Cord Reel

One (1) Hannay electric cord reel (ECR 1616-17-18) shall be installed and located pump module storage pan officer side.

The reel(s) shall include 200` of yellow 10 gauge 3 conductor type SOWA cord. The cord shall be rated at 20 amps @ 110 volts. The end of the cord shall be terminated for the installation of a department required connector.

Stainless steel cord reel rollers shall be installed and located through a panel.

The rollers shall be located officer side pump module in line with reel.

The rollers shall facilitate smooth removal of the electric cord.

A Daniel Woodhead 15 amp/110 volt (NEMA #L5-15) twist lock female cord connector model #25W47 shall be installed on the end of the cord.

A heavy duty rubber covered electric reel rewind button shall be installed officer side pump panel.

DOT Required Drive Away Kit

Three (3) triangular warning reflectors with carrying case shall be supplied to satisfy the DOT requirement.

Un-Painted Pump/Pre-Connect Module(s)

All applicable pump application modules shall have a sanded finish (not painted job color). Includes upper and lower pump modules, crosswalk module and/or speedlay/pre-connect module (as applicable). Rear mounted body/pump module shall be painted job color.

Undercoating

Undercoating shall consist of a heavy coating of CRC SP400 soft seal film sprayed on the undercarriage of the entire vehicle to repel water and road elements.

Cab Paint

The apparatus cab shall be painted Sikkens FLNA3225E-1 Red. The paint process shall meet or exceed current state regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.

The aluminum cab exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces. Cab doors and any hinged smooth-plate compartment doors shall be painted separately to assure proper paint coverage on cab, door jambs and door edges.

Paint process shall feature Sikkens high solid LV products and be performed in the following steps:

- Corrosion Prevention - all aluminum surfaces shall be pre-treated with the Alodine 5700 conversion coating to provide superior corrosion resistance and excellent adhesion of the base coat.
- Sikkens Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Sikkens High Solid LVBT650 (Base coat) - a lead-free, chromate-free high solid acrylic urethane base coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Sikkens High Solid LVBT650 (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

Any location where aluminum is penetrated after painting, for the purpose of mounting steps, handrails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment (ECK Corrosion Control). The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, handrails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

Two-Tone Cab Paint

The upper section of the cab shall be painted FLNA4006 White.

The paint process of the secondary cab color shall be the same as the primary color.

Cab Paint Break with Dip to Grille

The cab shall have a two-tone paint break. The break line shall be approximately 31.5 inches below the cab roof drip rail. The paint break shall include a dip down to the corners of the cab grille.

Body Paint

The apparatus body shall be painted Sikkens FLNA3225E-1 Red. The paint process shall meet or exceed current state regulations concerning paint operations. Pollution control shall include measures to protect the atmosphere, water, and soil. Contractor shall, upon demand, provide evidence that the manufacturing facility is in compliance with State EPA rules and regulations.

The aluminum body exterior shall have no mounted components prior to painting to assure full coverage of metal treatments and paint to the exterior surfaces of the body. Any vertically or horizontally hinged smooth-plate compartment doors shall be painted separately to assure proper paint coverage on body, door jambs and door edges.

Paint process shall feature Sikkens high solid LV products and be performed in the following steps:

- Corrosion Prevention - all aluminum surfaces shall be pre-treated with the Alodine 5700 conversion coating to provide superior corrosion resistance and excellent adhesion of the base coat.
- Sikkens Sealer/Primer LV - acrylic urethane sealer/primer shall be applied to guarantee excellent gloss hold-out, chip resistance and a uniform base color.
- Sikkens High Solid LVBT650 (Base coat) - a lead-free, chromate-free high solid acrylic urethane base coat shall be applied, providing excellent coverage and durability. A minimum of two (2) coats shall be applied.
- Sikkens High Solid LVBT650 (Clear coat) - high solid LV clear coat shall be applied as the final step in order to ensure full gloss and color retention and durability. A minimum of two (2) coats shall be applied.

Any location where aluminum is penetrated after painting, for the purpose of mounting steps, handrails, doors, lights, or other specified components shall be treated at the point of penetration with a corrosion inhibiting pre-treatment (ECK Corrosion Control). The pre-treatment shall be applied to the aluminum sheet metal or aluminum extrusions in all locations where the aluminum has been penetrated. All hardware used in mounting steps, handrails, doors, lights, or other specified components shall be individually treated with the corrosion inhibiting pre-treatment.

After the paint process is complete, the gloss rating of the unit shall be tested with a 20 degree gloss meter. Coating thickness shall be measured with a digital MIL gauge and the orange peel with a digital wave scan device.

Cab Interior Paint

The interior of the cab shall be painted Zolatone gray #20-64. Prior to painting, all exposed interior metal surfaces shall be pretreated using a corrosion prevention system.

Paint Sprayout

A paint sample sprayout shall be provided for each paint color. The colors shall be approved by the Fire Department.

Lettering & Striping

Up to one hundred (100) encapsulated gold leaf letters, 6" NFPA compliant cab/body scotchlite stripe shall be applied per Fire Department design.

A 3/4" scotchlite cab two-tone paint break stripe shall be applied.

A Chevron style 3M Diamond Grade striping shall be provided on the rear of the apparatus. The stripes shall consist of 6" 983-71 yellow / 983-72 red alternating stripes in an "A" pattern. The striping shall be located on the rear facing extrusions, panels and doors inboard and outboard of the beavertails if applicable.

Standard Warranty

The apparatus manufacturer shall provide a full 1-year standard warranty. All components manufactured by the apparatus manufacturer shall be covered against defects in materials or workmanship for a 1-year period. All components covered by separate suppliers such as engines, transmissions, tires, and batteries shall maintain the warranty as provided by the component supplier. A copy of the warranty document shall be provided with the proposal.

Lifetime Frame Warranty

The apparatus manufacturer shall provide a full lifetime frame warranty. This warranty shall cover all apparatus manufacturer designed frame, frame members, and cross-members against defects in materials or workmanship for the lifetime of the covered apparatus. A copy of the warranty document shall be provided with the proposal. Frame warranties that do not cover cross-members for the life of the vehicle shall not be acceptable.

10 Year/100,000 Mile Structural Warranty

The apparatus manufacturer shall provide a comprehensive 10 year/100,000 mile structural warranty. This warranty shall cover all structural components of the cab and/or body manufactured by the apparatus manufacturer against defects in materials or workmanship for 10 years or 100,000 miles, whichever occurs first. Excluded from this warranty are all hardware, mechanical items, electrical items, or paint finishes. A copy of the warranty document shall be provided with the proposal.

10 Year Stainless Steel Plumbing Warranty

The apparatus manufacturer shall provide a full 10-year stainless steel plumbing components warranty. This warranty shall cover defects in materials or workmanship of apparatus manufacturer designed foam/water plumbing system stainless steel components for 10 years. A copy of the warranty document shall be provided with the proposal.

Cab Paint Warranty

The apparatus manufacturer shall provide a 10-year non prorated (100%) paint and corrosion perforation warranty for the cab. This warranty shall cover paint peeling, cracking, blistering, and corrosion provided the vehicle is used in a normal and reasonable manner.

The warranty period shall begin upon delivery of the apparatus to the original user-purchaser. A copy of the warranty document shall be provided with the proposal.

Body Paint Warranty

The apparatus manufacturer shall provide a 10-year non prorated (100%) paint and corrosion perforation warranty for the body. This warranty shall cover paint peeling, cracking, blistering, and corrosion provided the vehicle is used in a normal and reasonable manner.

The warranty period shall begin upon delivery of the apparatus to the original user-purchaser. A copy of the warranty document shall be provided with the proposal.

Allowances

A $15,000 shelf/tray allowance shall be included in the proposal.
A $10,000 mounting allowance shall be included in the proposal.

Cab Intercom System

A Firecom 4-User Wireless headset system shall be supplied and installed in the cab. The system shall include (1) UHW505 headset, (1) FHW505 headset, (2) UHW503 headsets, wireless base station, external antenna, mobile radio cable, and digital intercom.

Add Options

Please provide separate priced options to add the following items:

1. Durabrite finish on aluminum wheels
2. Front and side air bag system with seatbelt pre-tensioners
3. Streamlight – Vulcan LED light box (quantity 5)
4. 30" Pro-Bar Halligan Tool (quantity 3)
5. Tempest 16" Electric PPV fan
6. Fire Hooks Unlimited – 8 lb. flat head axe – (quantity 2)
7. Fire Hooks Unlimited – pick head axe
8. Fire Hooks Unlimited – 6' NY hook (quantity 2)
9. Fire Hooks Unlimited – 8' NY hook
10. Hard suction – 3 sections
11. Elkhart removable deck gun with base
12. Ladders – Duo-Safety
    a. 24' Extension ladder
    b. 14' Double end roof ladder
    c. 10' Attic ladder
13. Fire Extinguishers – per NFPA
    a. ABC – Dry Chemical
    b. CO2
    c. H2O

*****PLEASE POSITION THIS SCHEDULE AS THE FIRST PAGE OF YOUR BID*****

PRICE & INFORMATION SCHEDULE

Price of a new 1500 GPM CUSTOM PUMPER delivered to the Town of Wolcott:

$ _____
(in words)

$ _____
(in numbers)

*****Prices are good for _____ days from the date of bid opening.**

Name, phone number and email of contact person:

Company Name:_____Contact:_____

Phone Number:_____Contact Cell_____

Contact Email:_____

Estimated delivery time:_____

#75

AN ORDINANCE ESTABLISHING UNIFORM STANDARDS APPLICABLE TO THE PUBLIC BIDDING PROCESS

BE IT ORDAINED THAT:

SECTION 1

STATEMENT OF PURPOSE

The purpose of this ordinance shall be:

(A) To establish uniform standards and to clarify those procedures which shall apply to the award of all municipal contracts which are subject to the Public Bidding Procedure provided in Section 707(c) of the Charter of the Town of Wolcott.

(B) In recognition of the compelling need to stimulate the economy and to enlarge the tax base of the Town of Wolcott, to provide, as part of said uniform standards and procedures, a preference to Town-Based Businesses, as hereinafter defined, in the awarding of certain municipal contracts in an amount not exceeding Two Hundred Thousand and 00/100 Dollars ($200,000.00).

SECTION 2

STANDARDS AND PROCEDURES APPLICABLE TO THE AWARD OF ALL MUNICIPAL CONTRACTS PURSUANT TO SECTION 707(c) OF THE CHARTER

(A) Subject to the special procedure hereinafter provided in Section 3 of this ordinance, any contract awarded as a result of the Public Bidding Procedure provided in Section 707(c) of the Charter shall be awarded to the lowest responsible qualified bidder unless the Municipal Finance Officer shall determine in writing that to do so would not be in the best interests of the Town of Wolcott.

(B) In making said determination, the Municipal Finance Officer shall be guided by the following considerations:

(1) The ability, capacity and skill of the bidder to perform the contract or to provide the service required.

(2) Whether the bidder can perform the contract or provide the service promptly, or within the time specified, without delay or interference.

(3) The character, integrity, reputation, judgment, experience and efficiency of the bidder.

(4) The quality of performance by the bidder of previous contracts or services.

(5) The previous and existing compliance by the bidder with those federal or state statutes and local ordinances, if any, relating to the contract or service.

(6) The sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service.

(7) The quality, availability and adaptability of the supplies, or contractual services to the particular use required.

(8) The ability of the bidder to provide future maintenance and service for the subject of the contract.

(C) The Municipal Finance Officer may require a performance bond as a condition before entering into any contract in such amount as said Officer shall find reasonably necessary to protect the interests of the Town.

SECTION 3

SPECIAL PROCEDURE APPLICABLE TO BIDS SUBMITTED BY TOWN-BASED BUSINESSES

(A) Town-Based Business: For the purposes of this ordinance, "Town-Based Business" shall mean any organization having its principal place of business located within the Town of Wolcott. To be considered a Town-Based Business eligible for the benefits provided in this Section, any bidder must submit, in addition to a bid, evidence satisfactory to the Municipal Finance Officer that said business in fact has its principal location within the Town of Wolcott. Such evidence may include, but is not limited to, the long term lease or ownership of business property from which said business is operated or the payment of property taxes on the personal property of said business to be used in the performance of the bid.

(B) Determination of the Lowest Responsible Qualified Bidder: The lowest responsible qualified bidder shall be determined in the following order:

(1) Subject to the standards provided in Section 2(B) of this ordinance, any Town-Based Business which is a responsible and qualified bidder and which has submitted a bid in an amount not more than five-percent (5%)

higher than the low bid shall be awarded the contract in the amount of the low bid.

(2) If no Town-Based Business has submitted a bid in an amount not more than five-percent (5%) higher than the low bid, then, subject to the standards provided in Section 2(B) of this ordinance, the contract shall be awarded to the lowest responsible qualified bidder.

(3) If more than one responsible and qualified Town-Based Business has submitted a bid in an amount not more than five-percent (5%) higher than the low bid, then, subject to the standards provided in Section 2(B) of this ordinance, the lowest responsible qualified bidder shall be that one of the Town-based bidders which has submitted the lowest bid who shall then be awarded the contract in the amount of the low bid.

(C) Limitations and Exceptions: The bidding procedure provided in this Section shall apply to the award of all municipal contracts which are subject to the Public Bidding Procedure provided in Section 707(c) of the Charter except for the following:

(1) Those of such contracts in an amount which is in excess of Two Hundred Thousand and 00/100 Dollars ($200,000.00).

(2) Those of such contracts which are funded, entirely or in part, by State or Federal grants-on-aid.

SECTION 4

INVITATIONS TO BID

All invitations to bid extended to prospective bidders in the award of all municipal contracts subject to the Public Bidding Procedure provided in Section 707(c) of the Charter shall include a reference to and shall be issued subject to the provisions of this ordinance.

SECTION 5

SEVERABILITY

If any provision of this ordinance is declared invalid, that decision shall not affect the remaining provisions of this ordinance, which shall continue in full force and effect.

SECTION 6

EFFECTIVE DATE

This ordinance shall be effective thirty (30) days after publication as required by Section 7-157 of the Connecticut General Statutes, as amended.

Approved by the Town Council, Town of Wolcott, this 20th day of September, 1994.

Eugene A. Migliaro, Jr.
EUGENE A. MIGLIARO, JR.
MAYOR, TOWN OF WOLCOTT
DATE: 9-21-94

Steven P. Bosco
STEVEN P. BOSCO
CHAIRMAN, WOLCOTT TOWN COUNCIL
DATE: 9/20/94

Wilson J. Trombley
WILSON J. TROMBLEY
WOLCOTT TOWN ATTORNEY
DATE: 9-20-94

Elaine L. King
ELAINE L. KING
WOLCOTT TOWN CLERK
DATE: 10/27/94

Date Published: September 27, 1994
Effective Date: October 27, 1994

ORDINANCE CONCERNING DELINQUENT TAXES AND DENIAL OF PERMITS, TOWN CONTRACTS AND VENDOR PAYMENTS

BE IT ORDAINED by the Town Council of the Town Wolcott, in a meeting duly assembled, that the following ordinance is adopted:

PREAMBLE

The purpose of the following Ordinance is to establish fair and equitable guidelines for all taxpayers and to aid in the efficient operation of municipal government and its agencies within the Town of Wolcott. It is the intent of the Town of Wolcott that all taxes must be paid in full before any Contract is awarded, permits are issued, or vendors are paid. It is not the intent of this Ordinance to punish or penalize any taxpayer but rather to be fair to all paying taxpayers by encouraging the payment of outstanding taxes.

SECTION 1:

For the purpose of this ordinance, the following definitions shall apply:

a) "Delinquent amounts" shall refer to any delinquent real or personal property taxes, any delinquent sewer assessments or usage charges, or any delinquent water assessments or usage charges, and any interest, fees and charges thereon.

b) "Person" shall mean any individual, firm, company, limited liability company, partnership, association, society, corporation, group, or other entity or any officer, director, member (managing or otherwise), stockholder, agent, or partner of said firm, company, limited liability company, partnership, association, society, corporation, group or other entity.

SECTION 2:

(A) No official or agent of the Town of Wolcott, or any member of any board, office, department, commission or agency thereof shall issue a certificate of occupancy, zoning, building, inland wetlands, driveway or any other permit for the use of or improvements to real property to any owner thereof or other applicant from whom any delinquent amounts are owed to the Town of Wolcott or for any real property for which any delinquent amounts are owed to the Town, except as provided in Section 4 below.

(B) At the time any such application for a certificate or permit is filed, the applicant shall submit to the appropriate Town Official having authority to issue such certificate or permit, sufficient written evidence from the Wolcott Tax Collector that there are no delinquent amounts due to the Town from the owner of the real property for which said application is made and from the applicant if other than the owner.

(C) This section shall not be deemed to apply to those applications for permits which involve repair or construction work ordered by a public agency or for emergency work to be performed for public health and/or safety concerns, nor shall it apply to those applicants who are making improvements to their real property with loans or grants received under any State and/or Federal rehabilitation programs.

SECTION 3:

No payment shall be made by the Treasurer of the Town of Wolcott or by any other Town Official, department head, employee, board, commission or agency to any person who has sold goods or provided services to the Town or to any board, office, department, commission or agency thereof, if, at the time said payment is due, it is determined that said person owes delinquent amounts to the Town, provided that no such payment to be withheld shall exceed the delinquent amounts owed at the time of the withholding. Any such sums withheld pursuant to this section shall be paid to the Tax Collector and applied against the outstanding delinquent amounts owed by such person, first to any outstanding interest, fees and charges and then to the outstanding principal balance. This section shall not apply to the payment of wages to employees of the Town of Wolcott, or any board, office, department, commission, or agency thereof.

SECTION 4:

(A) Notwithstanding anything provided hereinbefore to the contrary, no certificate or permit under Section 2 hereof shall be withheld if the person owing said delinquent amounts has entered into a written agreement with the Town of Wolcott, by and through the Wolcott Tax Collector, which shall provide for an immediate payment to the Town of all outstanding interest, fees and charges included in said delinquent amounts and at least one half of the principal balance owed, and a payment plan requiring the balance of said delinquent amounts to be paid in equal monthly installments over a period of no greater than twenty-four months from the date of said agreement. In the event any person owing delinquent amounts is unable to enter into such agreement with the Tax Collector as a result of severe financial hardship, such person may propose to said Tax Collector an alternate method for paying said delinquent amounts which, if acceptable to the Tax Collector, shall be subject to the approval of the Town Council. In either event, interest shall continue to accrue on said delinquent amounts at the rate allowed by law. Any such payment agreement shall be in addition to, and not in lieu of, any and all other collection methods and remedies available to the Tax Collector as allowed by law.

(B) In the event any person enters into a written agreement with the Tax Collector as provided hereinbefore, or proposes an alternate method of paying said delinquent amounts which proposal is acceptable to the Tax Collector and approved by the Town Council, proof of any such agreement or approval shall be delivered to the appropriate Town Official having authority to issue such certificate or permit prior to the issuance of such certificate or permit.

(C) The exception provided in paragraph (A) of this section and any agreement entered into pursuant thereto shall be for the sole purpose of allowing a person owing delinquent amounts to obtain a certificate or permit and shall not in any way constitute, or to be construed to constitute, an agreement by the Town of Wolcott or the Tax Collector to forebear the collection of said delinquent amounts during the period of the approved monthly payment plan. The Tax Collector shall continue to have the right to exercise all powers allowed by law to collect said delinquent amounts sooner than set forth in said agreement and at no time shall the Town be required to stay or forestall any other collection methods or remedies during such period.

SECTION 5:

If the "Person" as defined in Section 1 (b) owes any money to the Town of Wolcott, said person shall be deemed ineligible to bid any municipal project until such time as payment is made or arrangements are made in accordance with Section 4 (C) supra.

SECTION 6:

The Treasurer and Tax Collector of the Town of Wolcott shall coordinate their activities so that the purpose and intent of this ordinance may be carried out. All other officials, department heads and employees of the Town shall coordinate their activities with those of the Tax Collector and Treasurer in a like manner.

SECTION 7:

Any person entering into any contract with the Town of Wolcott or doing business with the Town shall be deemed to have expressly consented and agreed to the terms of Section 3 of this ordinance which terms shall become an integral part of the contract or agreement between such person and the Town, even if not specifically set forth in said contract or agreement.

SECTION 8:

All invitations to bid extended to prospective bidders in the award of municipal contracts subject to the public bidding procedure provided in Section 707 (c) of the Town of Wolcott Charter shall include a reference to this ordinance provided, however, that the failure of any invitation to bid to include such reference shall in no way affect the validity of the invitation or the applicability of this ordinance.

SECTION 9:

If any provision of this ordinance is declared invalid, the remaining provisions hereof shall continue in full force and effect.

SECTION 10:

The ordinance entitled "Ordinance Concerning Delinquent Taxes and Denial of Permits, Town Contracts, and Vendor Payments", (#77), which was enacted by the Town Council on April 16, 1996 is hereby repealed on the effective date of this ordinance (#92).

This ordinance was approved at a Regular Meeting by the Wolcott Town Council on September 2, 2008 and becomes effective on September 26, 2008.

Thomas G. Dunn, Mayor
Town of Wolcott

9-3-08
Date

Mark Wagner, Chairman
Wolcott Town Council

9-2-08
Date

CERTIFICATION

I, Dolores C. Slater, Town Clerk for the Town of Wolcott, do hereby certify that the above is a true and correct copy of Ordinance #92 adopted by the Town Council at its regular meeting on September 2, 2008 in which a quorum was present and acting throughout and that the ordinance has not been modified, rescinded, or revoked and is at present in full force and effect.

Dolores C Slater
Dolores C. Slater, Town Clerk

9-3-2008
Date

Public Hearing Date: September 2, 2008

Approved by Town Council: September 2, 2008

Date Published: September 5, 2008

Effective Date: September 26, 2008
(21 days after publication)

(SEAL)